

INTRODUCTION.

THE First ILLUSTRATED LONDON ALMANACE was published for the year 1845, and it has appeared annually since that time.

All those divisions of the Almanack for 1846, relating to the Calendar, to Astronomy, and to Science in general, were entrusted to James Glaisher, Esq., F.R.S., F.R.A.S., of the Royal Observatory at Greenwich, and all relating to these subjects, since that time, have been under his superintendence.

The Notes on the Month, on the fourth page of every Month, are by Mrs. Loudon.

It is thought better to give additional information each year than to repeat Tables or Particulars which are the same for several years together; therefore, for explanations, &c., we refer to preceding Almanacks. In this Almanack, at page 52 will be found a very useful Table, shewing the time of the Sun's rising and setting, and the length of the day at all places in Great Britain and Ireland, for every 10th day of the year; and at page 54 will be found a clear description of the heavens, by which means the names of the Stars, &c. may very readily be learned. Both these tables will answer for several years.

ON THE METEOROLOGY OF ENGLAND.

THE geographical position of England being distant both from the Equator and the Pole, together with the circumstance of being an island situated with the great European continent on the east, open to extensive oceans on the south-west, the west, and the north, and under the influence of the great cold from the north-all operate to cause the weather to be more variable than in countries on the Continent. In England, in fact, the effects of distant phenomena are registered frequently; and without a well-combined system of uniform observations, extending over the surface of the globe, and deduction of heir results, we cannot hope to trace the source of many recorded phenomena, and, in fact, of none except those only of a local nature.

The ever-varying state of the weather of Great Britain has led to much in-The ever-varying state of the weather of Great Britain has led to much individual enquiry; but it has failed to receive that combination of labour and that support which is necessary even to the determining the source to which local disturbances may be traced, and the extent of local laws. Yet, when we consider its practical importance to the physician, to the agriculturist, to the navigator—in fact, to all classes of persons—it seems somewhat strange that Meteorology has met with this neglect.

On the state of the atmosphere, combined in various ways with local circumstances. epidemic compalaints seem to depend: and it is highly probable that the

On the state of the atmosphere, combined in various ways with local circumstances, epidemic complaints seem to depend; and it is highly probable that the present epidemic of cholera is mainly attributable to the peculiarities of the atmosphere which have lately been prevalent, combined with local circumstances. To render our Almanack the most generally useful, we have been auxious to collect the meteorological particulars to the present time, including those when o particular disease existed, as we know that many medical gentlemen, and others, are desirous to elucidate the connexion which may have existed between this disease and the weather.

The fallenging metagological particulars derived from the published volumes.

The following meteorological particulars, derived from the published volumes of the Greenwich observations, and from the meteorological reports furnished by the Astronomer Royal to the Registrar-General, will not only be useful for this and other similar investigations, but will exhibit the full particulars of an English year :-

MEAN MONTHLY READING OF THE BAROMETER AT GREENWICH.

		YEARS.											
MONTHS.	1841.	1841. 1842.		1844.	1845.	1816.	1817.	1848.	1849.				
	In.	In.	In.	In.	In.	In.	In.	In.	In.				
January .	29.702	29 901	29.674	29.891	29.704	29 671	29.768	29.816	29.771				
February .	29.697	29.876	29.473	29.498	29.840	29.849	29.782	29.517	30.106				
March	29.784		29 758	29.710	29.795	29.655	29 882	29 505	29 915				
April	29.731		29 687	30.000	29 696	29.589	29.653	29.589	29.517				
May	29.731		29.664	29.945	29.712	29.779	29.764	29 926	29.766				
June	29.801		29 700	29.814	29 775	29 866	29.805	29 642	29.868				
July : .	29.716	29.820	29.826	29.753	29.769	29.757	29.924	29.836	29.789				
August	29.768	29.869		29.677	29.729	29.777	29.876	29.732	29 841				
September.	29.624	29.715		29.881	29.801	29.824	29.825	29.832	29.767				
October .	29.436	29.849		29.562	29.847	29 516	29.803	29.646	米				
November.		29.599		29.690	29.575	29.821	29 905	29.785					
December .	29.574	30.007	30.245	29.885	29.658	29.697	29.778	29.807					
						A STATE OF THE PARTY OF	The second second						

These numbers show the exact length of the column of mercury which has been balanced by the atmosphere in every month. The length of this column depends almost wholly upon the amount of air and of water mixed with it in the depends almost wholly upon the amount of air and of water mixed with it in invisible shape of vapour, and every variation in the volumes of air and water is shown by a corresponding variation in the reading of the barometer. We may briefly remark, that if the column of mercury in a barometer be weighed in pounds, such weight would represent the pressure of a column of atmosphere of the same dimensions reaching from the place of the barometer, to the top of the atmosphere

If at any time there be a diminution of pressure at one place, there must be a If at any time there be a diminution of pressure at one place, there must be a corresponding increase at some other place; the less portion of the atmosphere is not annihilated: for instance, if at any place the decrease of the reading of the barometer be one inch, this implies that one-thirfieth of the whole atmosphere is removed from that place—there must either be an increase at some other place of one inch in the reading of the barometer, or that portion of the atmosphere must be spread over many places; hence one of the necessities of uniform and systematic observations taken simultaneously at many places.

MEAN MONTHLY TEMPERATURE OF THE AIR AT GREENWICH.

MONTHS.	133	YEARS.									
MONTHS.	1811.	1812.	1843.	1844.	1845.	1846.	1847.	1848.	1819.		
	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg		
January	33.6	32.9	39.9	39.1	38.3	43.7	35.1	34.6	40.1		
February	35.3	40.8	36.0	35,2	32.7	43.9	35.4	43.4	43.2		
March	46.2	44 9	42.9	41.5	35.2	43 3	41.0	43.8	42.5		
April	47.0	45 2	47.1	51.7	463	47 1	45.3	47.6	43.2		
May	56.8	53.2	52.2	52.9	49.4	54.6	56.4	59.7	54.0		
June	56.4	62.9	56.3	60.7	60.7	65.3	58.0	58.5	57.9		
July	57.8	60.2	60.9	61.4	59.8	64.5	65.4	61.5	62.1		
August	60.5	65.4	62.1	57.7	57.3	63.2	62.1	58.5	62.9		
September	58.1	56.4	59.5	56.9	53.6	60.1	543	55.8	58.8		
October	48.8	45.4	48.0	49.5	50.2	50.5	529	51.6			
November	42.7	42.8	43.8	44 0	45.8	46 0	46.9	43.8			
December	40.5	45.0	43.9	33.0	41.7	32.9	42.8	44.0			

* On reading these numbers, the figures to the right of the point show the parts of an inch; thus, 29.697 is to be read 29 inches, 6 tenths, 9 hundreds, and 7 thousandths of an inch.

MEAN DAILY RANGE OF TEMPERATURE OF THE AIR AT GREENWICH.

MONTHS.				YEA					
MONTHS.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.
January . February . March . April . May . June . July . August . September . October . November . December .	Deg. 11.1 9.1 17.5 16.5 21.3 18.8 15.6 16.3 16.0 11.7 10.7 9.4	Deg. 6.4 10.4 10.9 16.1 16.7 22.2 17.7 20.3 12.8 13.2 7.9 8.2	Deg. 7.9 7.5 12.4 15.4 14.7 15.2 15.6 16.4 17.4 12.8 10.2 6 6	Deg. 8.7 10.5 12.1 21.0 18.6 19.9 16.2 15.4 15.3 12.4 7.4 5.4	Beg. 6.4 8.7 11.1 16.8 14.2 18.2 14.9 14.8 15.6 13.3 10.9 9.9	Deg. 7.7 8.3 12.7 13.1 16.6 22.5 17.5 15.5 18.0 10.4 8.0 10.3	Deg. 8.8 11.6 16.0 18.3 21.2 19.4 23.3 21.0 18.7 14.0 11.4 9.7	8.3 10.7 14.3 16.7 30·5 17.7 22.5 18.5 20.9 16.5 15.7 12.7	Deg. 10.9 12.9 13.8 16.0 16.3 20.6 22.6 20.2 17.5

MEAN MONTHLY TEMPERATURE OF EVAPORATION AT GREENWICH.

				Y	YEARS.				
MONTHS.	1841.	1842.	1843.	₫ 1814.	1845.	1846.	1847.	1848.	1849.
-	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg	Deg.	Deg.
January		31.9	38.8	38.7	37.4	42.5	34 5	32 6	38.6
February .		38.7	35.0	33.9	31.4	42.2	33.9	41.6	41.4
March	44.1	42.9	41.2	40.2	33.4	41.1	37.9	41.6	398
April	44 2	41.9	45.0	47.6	43.5	44.8	41.4	44 5	41.5
May	53.6	49.5	50.4	49.1	47.0	51.0	52.1	53 0	49.0
June	52 6	57.4	53.5	55.0	57.5	59.7	53.4	54.4	48.7
July	54.5	55.9	58.2	57.3	56.7	59.8	60.0	57.6	56.2
August	57.4	61.2	59.5	54.6	54.7	59.8	59.5	55.2	57.3
September .	55.8	54.8	56.9	54.7	51.5	57.1	51.8	53.2	54.6
October	47.1	43.9	46.4	49.3	48.4	48.8	50.9	49.3	
November .	41.5	41.9	42.4	43.1	44.4	44.7	45.6	41.7	
December .	38.3	44.2	43 0	32.2	40.0	31.9	41.6	42 3	

	MEAN M	ONTHLY	TEMPE			E DEW	POINT		
MONTHS.	YEARS.								
MONTHS.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.
January February .	Deg.	Deg. 30.0 38.4	Deg. 37.3 33.4	Deg. 36.1 31.8	Deg. 35.9 28.5	Deg. 40.8 39 9	Deg. 33.6 31.0	Deg. 31.7 38.8	Deg. 36.4 38 8
March April	40.7 50.8	40.7 38.3 46.7	38.9 42.6 48.8	36.6 44.2 46.1	30.0 40.6 44.6	38.3 42.3 48 0	33.5 37.2 48.6	38.5 41.4 48.6	36.5 39 1 43.9
June July	49.2 51.6 55.0	54.3 53.2 58.9	51.2 56.3 57.8	51.6 54.7 52.3	55.2 54.4 52.6	56.0 56.5 57.5	49.8 56.4 56.1	51,6 54.6 52.8	48.4 51.1 53.0
August September . October	53.7 45.1	53.5 42.4	54.9 44.7	53.2 46 0	49.7 46.5	54.9 47.2	49.7 49.1	50 9 47.4	51.0
November . December .	39.8 35.2	40.4 43.2	40.9	41.9 30.0	42 8 37.7	43.1 29.4	44 I 39.8	38.8 40.1	1

AMOUNT OF RAIN FALLEN IN EVERY MONTH.

				YE					
MONTHS.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.
	In.								
January	2.1	10	1.4	2.4	2.4	2.8	1.4	1.2	1.6
February .	1.3	1.1	2.4	2.3	0.9	1.5	1.4	2.6	2.2
March	1.4	1.9	0.5	29	1.5	0.9	08	3.1	0.5
April	1.9	0.4	1.7	04	0.6	3.1	1.0	3.4	2.2
May	2.1	2.1	3.8	0.4	2.2	1.5	1.4	0.4	3.9
June	2.7	1.0	1.3	1.8	1.9	0.5	1.5	35	0.2
July	3.6	30	2.4	2.8	19	1.5	0.7	2.0	2.1
August	2.2	18	3.6	20	3.1	4.0	2.1	4.3	0.5
September .	4.0	40	0.5	1.2	2.1	1.8	1.6	2.4	3.3
October .	6.0	1.4	4.3	4.0	1.4	5.1	2.0	3.5	0.0
November .	3.7	4.3	2.3	43	24	1.5	2.0	1.2	
December .	2.4	0.7	0.4	0.4	20	1.1	20	2.6	

NUMBER OF DAYS ON WHICH RAIN HAS FALLEN IN EVERY MONTH.

MONTHS,	YEARS.										
months,	1841.	1842.	1813.	1844.	1845.	1846.	1847.	1818.	1849,		
January	20	7	11	13	14	13	14	9	17		
February .	19	11	15	16	9	7	11	19	10		
March	13	14	7	17	9	14	6	21	8		
April	15	6	15	5	12	16	11	23	19		
May	12	14	23	8	20	8	12	3	15		
June	9	6	15	10	13	5	10	20	5		
July	18	14	14	13	19	10	4	18	12		
August	15	8	12	11	17	11	11	29	3		
September .	14	17	6	9	10	7	11	14	15		
October	25	6	22	18	8	20	13	24			
November .	14	20	20	16	18	8	10	12			
December .	18	9	10	9	13	10	11	14			

As Meteorology affects all classes in every condition of life—the agriculturist the mariner, the invalid—it is particularly to the benefit of these individuals that the labour of the meteorologist is directed, and with this view he must work untiringly onward. If epidemics are produced by atmospheric causes, it is to the successful cultivation of medical-meteorology alone we must look for guidance against them and the mitigation of their virulence, and thus improve the public health and lessen the individual suffering of the invalid.

ON THE CALENDAR.

THE PRINCIPAL ARTICLES OF THE CALENDAR,

	Gregorian, or New Calendar.	Julian, or Old Calendar.
Dominical Letter	F	A
Golden Number	8	8
Roman Indiction	8	8
Solar Cycle	11	11
Epact	17	28
(For remarks upon t	hese articles, see the Almanac	k for the year 1847.)

CORRESPONDENCE OF THE YEAR 1850 WITH ANCIENT ERAS.

Being, till September 6th, the latter part of the 5610th, and from September 7th the beginning of the 5611th year since the creation of the world, according

to the Jews.

Being the 6563rd year of the Julian Period.

Being the 2603rd year since the Foundation of Rome (according to Varro).

Being the 2597th year since the era of Nabonasser, which has been assigned to Wednesday, the 26th of February, of the 3967th year of the Julian Period, which corresponds, according to chronologists, to the 747th, and, according to astronomers, to the 746th year before the birth of Christ.

Being the 2626th year of the Olympiads, or the second year of the 657th Olympiad will begin in July, 1850, if we fix the era of the Olympiads at 775½ years before Christ, or at or about the beginning of July of the year 3938 of the Julian Period.

Being the latter part of the 1266th, and the beginning of the year 3938 of the

Julian Period.

Being the latter part of the 1266th, and the beginning of the 1267th year (of twelve lunations) since the Hegira, or flight of Mahomet, which it is generally supposed took place on the 18th of July, in the year 622 of the Christian era. The year 1266 commenced on the 16th of November, 1849, and ends on the 5th of November, 1850.

CALENDAR OF THE JEWS FOR THE YEAR 1850.

1	CAL	ENI	DA	R OF TH	Œ	JE	EWS FOR THE YEAR 1850.	The Sun will be in the
1	561	0	1	1849			NEW MOONS AND FEASTS.	
1	001	0.		1010	1		ALL INVESTIGATION	,,
١	m 1 - 12	6758	1	December	No.	16	Rosh Hodesh, or New Moon	"
	Tebeth	**	10			95	Fast: Siege of Jerusalem	So that the period of S
١	"	••	10	" 1850		20	rast: Siege of Serusatem	that of Winter; 17 hour
1	Cababab		1	January	٠	14	New Moon	21 hours, and 22 minutes
1	Schebat		1			13	New Moon	The Sun will be on the
1	Adar	••	13	2.000		~~	Fast of Esther	Equator and going N.
	"	•••	14	"	The Party	26	Feast of Purim*	The Sun will reach his
	"			"		27	Schuschan Purim	extreme N. declin. at
- 1	"	••	15	35		14	New Moon	The sun will be on the
-	Nisan		1	March		28		Equator, and going S.
1	33		15	11			Beginning of the Passover*	The Sun will be at his
1	"		16			29	Second Feast, or morrow of Passover*	extreme S. declination
	,,		21	April	*	3	Seventh Feast*	The Sun will be No
-	"		22	"		4	End of the Passover	10 hours 57 minutes.
	Ijar		1	"		13	New Moon	The Sun will be South
	,,		18	1)		30	Lag Beomer	59 minutes.
	Sivan		1	May		12	New Moon	The second second
-	11		6	11		17	Feast of Weeks of Pentecost*	The length of the Trop
-	,,		7	,,		18	Second Feast*	ending at the Winter So
	Tamuz		1	June		11	New Moon	-
	,,		17	,,		27	Fast for the taking of the Temple*	ASTRONOMIC.
	Ab		1	July		10	New Moon	
4	,,		9	,,		18	Fast for the burning of the Temple*	
	Elul		1	August		9	New Moon	O The Sun
	561	1.						New Moon
	Tisri		1	September		7	Feast for the New Year*	D First Quarter of Mo
	,,		2	,,		8	Second Feast for the New Year*	O Full Moon
	,,		3	,,		9	Fast of Gedaliah	(Last Quarter of Mo
	,,		10	,,			Fast: Recordilation, or Atonement*	ĕ Mercury ♀ Venus
	,,		15	,,,			Feast of the Huts or Tabernacles*	Q Venus
	1)		16	,,,		22	Second Feast of the Huts*	e or 5 The Earth
	"		21	,,		27	Feast of Palms or Branches	8 Mars
	,,		22	,,			End of Hut, or Congregational Feast*	🛮 Vesta
	,,		23	,,		29	Rejoicing for the discovery of the Law*	♯ Juno
	Marchesy		1	October		7	New Moon	* Juno p Pallas
	Kisley		1	November	r	6	New Moon	2 Ceres
	,,		25	,,		30	Consecration of the Temple	2 Hebe
	Tebeth		1	December			New Moon	The Symbol & Conju
	"		10	"		15	Fast for the Siege of Jerusalem	, Quad
	"	3.00		185				,, & Oppos
	Sebat		1	January		4	New Moon	(For explanation of
	100000							To copeciation

The Anniversaries marked with an asterisk (*) are to be strictly observed. The Jowish Year generally contains 354 days, or 12 Lunations of the Moon; but, in a cycle of 19 years, an intercalary month (Weadar) is 7 times introduced, for the purpose of rendering the average duration of the year quite or nearly correct.

MOHAMMEDAN CALENDAR FOR THE YEAR 1850.

Year.	Names of the	Months,		Month begins.
Hegiri; 1266.	Safar	,,	"	December 17, 1849.
" "	Rebia 1	,,	,,	January 15, 1850.
,, ,,	Rebia 11	,,	,,	February 14, "
	Gomedhi 1	3)	**	March 15, ,,
" "	Gomedhi 11	"	,,	April 14, "
33	Rejeb	,,	11	May 13, ,,
" "	Scheban	,,	"	June 12, ,,
" "	Ramedan	(Month of Fasting)	"	July 11, ,,
" "	Schewale	(Bairam)	"	August 10, "
" "	Dsu'l-Kâdah		"	September 8, ,,
" "	Dsu'l-hejjah		"	October 8, ,,
TT 1007	Moharrem 1			Morrombon C
Hegiri ; 1267.		"	"	Dogombon 6
" "	Safar 1	"	"	January 4, 1851.
,, ,,	Rebia	,,	"	
(For remarks	on the Mohamn	nedan year, see the Alm	nanac	k for the year 1848.)

SIGNS OF THE ZODIAC.

Spring Signs {	1 \(\Gamma\) Aries 2 \(\Gamma\) Taurus 3 \(\Pi\) Gemini	Autumn Signs	{ 7 \(\simeq \) Libra 8 m Scorpio 9 \(\phi \) Sagittarius
Summer Signs	4 5 Cancer 5 Ω Leo 6 m Virgo	Winter Signs	10 W Capricornus 11 m Aquarius 12 × Pisces

FIXED AND MOVEABLE FESTIVALS, ANNIVERSA-RIES, &c.

١			1			
l	Epiphany	Jan.	6	Birth of Queen Victoria	,,	24
ı	Septuagesima Sunday	,,	27	Trinity Sunday	,,	26
l	Martyrdom of King Charles I	. ,,	30	Restoration of King Chas. II.		29
į	Quinquagesima-Shrove Sun.	Feb.	10	Corpus Christi	,,	30
١	Ash Wednesday	,,	13	Accession of Queen Victoria	June	20
l	Quadragesima-1st Sunday?		14	Proclamation	**	21
į	in Lent		17	St. John Baptist-Midsum-7		0.1
	St. David	March	1	mar Day	33	24
	St. Patrick	,,	17	Birth of Dowager Queen	1	
	Palm Sunday	11	24	Adelaide	Aug.	13
	Annunciation—Lady Day	"	25	St. Michael-Michaelmas Day	Sep.	29
	Good Friday	"	29		Nov.	5
	EASTER SUNDAY	"	31	Birth of Prince of Wales	1	9
	Low Sunday	April		Birth of Prince Alkert	"	26
	St. George	,,	23	St. Andrew	"	30
	Rogation Sunday	May	5	1st Sunday in Advent	Dec.	1
	Ascension Day-Holy Thursdo		9	St. Thomas	"	21
	Pentecost-Whit Sunday		19	Christmas Day	11	25

BEGINNING OF THE SEASONS, 1850.

33110	TTITITIO	Or waren waste	~~~	~, ~	00.				
					16	D.	H.	M.	
The Sun enters	Capricorn	us (Winter begins)	1849,	Dec.	21	9	42	P.M.	
,,	Aries	(Spring begins)	1850,	March	20	11	3	P.M.	
"	Cancer	(Summer begins)	,,	June					
"	Libra	(Autumn begins)	,,	Sept.					
33	Capricorn	us (Winter begins)	,,	Dec.	22	3	38	A.M.	

DURATION OF THE SEASONS, AND THE YEAR 1850.

89 Days 1 Hour 21 Minutes

Winter signs

ı	1)	Shind	"			"	-		01		"	
ì	,,	Summer	,,		93	,,	1	4 ,,	()	,,	
		Autumn	,,		89		1	7 ,,	38		,,	
i	So that the period of S	summer is 4	days,	12	hou	ars, a	and 3	9 minu	ites lor	ger	c th	an
	that of Winter; 17 hours	s and 3 minu	tes lo	nge	rth	ian tl	hat o	f Sprin	ig; an	d 3	da	ys,
ij	21 hours, and 22 minutes	longer than	that	of .	Aut	tumn				-		
100	The Sun will be on the			н.						0	1	11
R	Equator and going N.		h 20	11	3	P.M.,	his d	leclin.	being	0	0	0
	The Sun will reach his										07	05
	extreme N. declin. at		21	8	0	P.M.,	ms	decim.	peing	23	21	20
	The sun will be on the	The state of the s	-									
	Equator, and going S.	1850, Sept	. 23	10	0	A.M.,	, his	declin.	being	0	0	0
	The Sun will be at his	3										
	THE DUIL WILL DE AL HIS	1050 Dea	00	0	20	77 75	hin	doalin	haine	92	97	95

extreme S. declination \ 1850, Dec. 22 3 38 P.M., his declin. being 2 The Sun will be North of the Equator (Spring and Summer) 186 days 10 hours 57 minutes.

The Sun will be South of the Equator (Winter and Autumn) 178 days 18 hours 59 minutes.

The length of the Tropical Year, commencing at the Winter Solstice 1849, and ending at the Winter Solstice 1850, is 365 days 5 hours 56 minutes.

ASTRONOMICAL SYMBOLS AND ABBREVIATIONS

	marinin.	
O The Sun	□ Iris □	o Degrees
New Moon	Astrea	/ Minutes of Arc
) First Quarter of Moon	& Flora	" Seconds of Arc
O Full Moon	* Metis	D. Days
(Last Quarter of Moon	4 Jupiter	H. Hours
	h Satura	M. Minutes of Time
φ Mercury φ Venus	H Uranus	S. Seconds of Time
or 5 The Earth	H Uranus	⊙ Sunday
& Mars	& Ascending Node)) Monday
	98 Descending Node	& Tuesday
* Juno	N. North	\dog Wednesday
	E. East	24 Thursday
Ceres	S. South	Q Friday
9 Hebe	W. West	h Saturday
	tion, or having the same Lo	ngitude or Right Ascensio
Onedrate	are or differing 900 in Lon	gitude or Right Ascension

Opposition, or differing 180° in Longitude or Right Ascension. (For explanation of Astronomical terms, see Almanack for the year 1848.)

LAW TERMS, 1850.

As Settled by Statutes 2 George IV., 1 William IV., cap. 70, s. 6 (passed July 23rd, 1830), and 1 William IV., cap. 3, s. 2 (passed December 23rd, 1830).

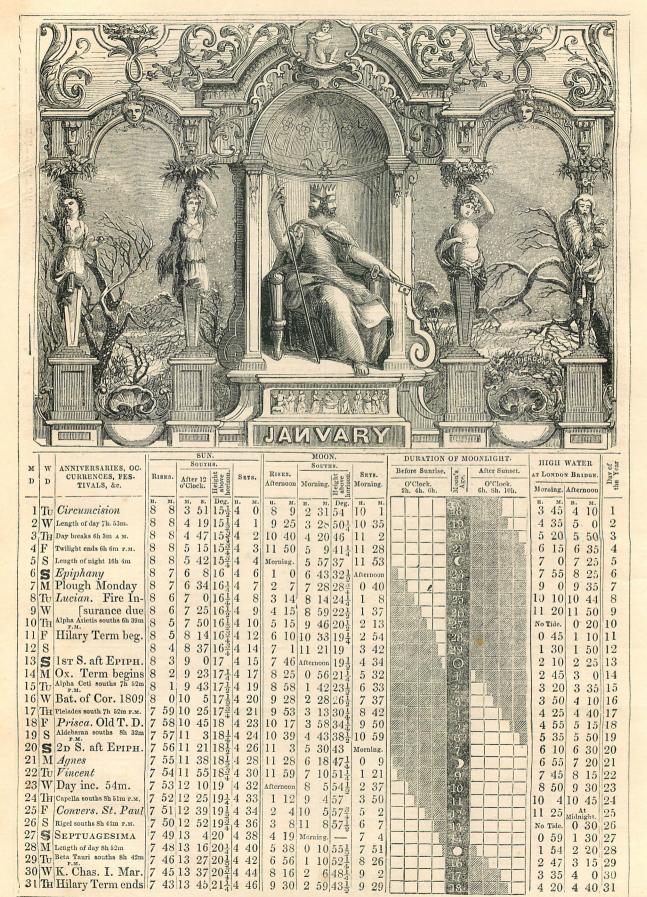
Hilary Term Easter Term	 1.0	-	January April	11		January May	31
Trinity Term	 **	"	May	2		June	12
Michaelmas Term		,,	Nov.	2	,,	Nov.	25

UNIVERSITY TERMS, 1850. OXFORD.

TE	RMS.		BEGIN	9.	ENDS.	
Lent Easter Trinity Michaelmas		 	January April May October	14 10 22 10	March May July December	24 18 6 17
221011110				The Act.	July 2.	

CAMBRIDGE.

TERMS.	BEGINS.	DIVIDES.	ENDS.
Lent	Jan. 13	Feb. 16, Noon	March 22
Easter	April 10	May 23, Noon	July 5
Michaelmas	Oct. 10	Nov. 12, Midnight	Dec. 16



JANUARY.

THE SUN is situated south of the Equator, or he has south declination, and is in the sign Capricornus (the Goat) till the 20th, having been in that sign 29 days, 10 hours, 38 minutes. On this day, at 8h. 20m. A.M., he enters the sign Aquarius (the Water-bearer).

On the 1st day his distance from the earth is 93,408,000 miles, being the least

On the 1st day his distance from the earth is 93,408,000 miles, being the least in the year. He rises on the 1st at 3°S. of the S.E. by E.; on the 16th, at the S.E. by E.; and on the last day at $5\frac{1}{4}$ °S. of the E.S.E. He sets on the same days at 3°S. of the S.W. by W., at the S.W. by W., and at $5\frac{1}{4}$ °S. of the W.S.W. points of the horizon respectively.

The Moon is in the constellation Lee till the 3d, on which day she passes into

The Moon is in the constellation Leo till the 3d, on which day she passes into Virgo; on the 7th, into Libra; on the 9th, into Scorpio and Ophiuchus. She is in Sagitarius on the 11th, 12th, and 13th; in Capricornus, on the 14th and 15th; in Aquarius, on the 16th; in Pisces and Cetus, alternately, till the 21st; in Aries, on the 22d; in Taurus, on the 28d and 24th; in Gemini, on the 25th, 26th, and 27th; and in Leo, from the 28th to the end of the month.

She is above the horizon when the Sun is below, during the morning hours, at the beginning and at the end of the month; and the evening hours, from the middle till nearly the end of the month.

She is situated N. of the Equator till the 4th; is on the Equator at 9h. P.M. on this day; is at her greatest south declination on the 12th; is on the Equator again on the 19th; reaches her extreme N. declination on the 26th; and is a little N. of the Equator at the end of the month.

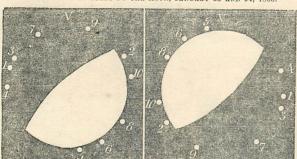
She is near Jupiter on the 3d, Venus on the 12th, Mercury on the 14th, Siturn on the 19th, Uranus on the 20th, Mars on the 24th, and Jupiter again on the 30th, at midnight.

On January 23d several stars are occulted by the Moon; and early on the

on the 30th, at midnight.

On January 23d several stars are occulted by the Moon; and early on the morning of the 24th the bright star Aldebaran will be occulted. The disappearances of the stars will take place at the dark limb of the Moon, and their re-appearances at the bright limb. The Moon will be seen to approach Aldebaran for some time before it disappears. The annexed diagrams exhibit the places at which the several phenomena take place, both for telescopes which do, and for those which do not, invert. The diagram in both cases is drawn more espe-

OCCULTATIONS OF STARS BY THE MOON, JANUARY 23 AND 24, 1850.



By direct vision

As seen arouga an averting telescope

cially for the appearance of the Moon at the time of the occultation of Aldebaran; the places marked for the other occultations will, therefore, be understood as having the same relative position to the highest point of the Moon at the times of their occurrence, as seen through the telescope, as they have to the letter V in the diagram.

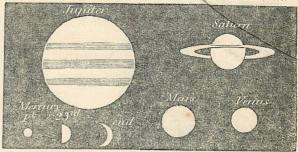
Gam- (will disappear	D. H. M. (and re-appear	D. H. M.
ma { at the place	1 at 23 5 4 P. M.	at the place	2 at 23 6 6 P.M.
Tauri (marked)	marked	3 21221
Theta I Tauri ,,	3 at 23 9 42 P.M.	,,	6 at 23 10 49 P.M.
Theta 2 Tauri ,,	4 at 23 9 49 P.M.	1)	5 at 23 10 43 P.M.
A Star ,,	7 at 23 10 47 P.M.	39	8 at 23 11 52 P.M.
Aldebaran "	9 at 24 1 32 A.M.	"	10 at 24 2 1 A.M.

MERCURY is in the constellation Sagittarius till the 6th; in Capricornus, from

the 6th to the 26th; in Aquarius, on the 27th, 28th, and 29th; and, on the last day, enters Capricornus.

He sets on the 1st, at 4h. 26m. P.M.; on the 5th, at 4h. 46m.; on the 10th, at 5h. 13m.; on the 15th, at 5h. 41m.; on the 20th, at 6h. 6m.; on the 25th, at 6h. 19m.; and on the 31st, at 6h. 8m. P.M. These times are 0h. 26m., 0h. 42m., 1h. 3m., 1h. 22m., 1h. 40m., 1h. 45m., and h. 22m. after sunset respectively. He is, therefore, favourably situated after the Sun sets, from the 10th to the

RELATIVE TELESCOPIC APPEARANCE OF THE PLANETS IN JANUARY, 1850.



Scale, 40 seconds of arc to one inch.

end of the month. The best times are from the 20th to the 28th. He sets on the 1st at 5° S. of S.W. by W.; on the 10th at S.W. by W.; on the 23d at W.S.W.; and on the last day at 5° N. of W.S.W. He is moving eastward among the stars till the 28th; is stationary on the 29th; and begins to move westward on the 30th. His path among the stars, during this month, is shown in the diagram in February.

the diagram in February.

VENUS is in the constellation Sagittarius to the 25th, and in that of Capricornus from the 26th. She is a morning star throughout the month, but not favourably situated for observation. She rises on the 1st at 7h. 5m.; and on the last day at 7h. 30m. near the S.E. by E. point of the horizon.

MARS is in the constellation Taurus. He is visible throughout the night, and sets on the 1st at 7h. 21m. A.M.; on the 15th at 6h. 10m. A.M.; and on the last day at 5h. 5m. A.M., near the N.W. point of the horizon.

JUPITER is in the constellation Virgo throughout the month.

He rises on the 1st at 10h. 27m. P.M., and on the last day at 8h. 24m. P.M., midway between the E. and E. by N. points of the horizon; and he sets after the Sun rises.

mtoway between the E. and E. by N. points of the horizon; and he sets after the Sun rises.

JUPITER'S SATELLITES.—Several immersions of the 1st, 2d, and 3d Satellites, and an emersion of the 3d, and another of the 4th, take place. The relative position of the Satellite to Jupiter at the instant of the eclipse is shown in the annexed diagram, as viewed through an inverting telescope.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION OR EMERSION.



Saturn is in the constellation Cetus throughout the month. He is an evening star, and sets at a point a little S. of W. at 11h. 23m. r.m. on the 1st, and at 9h. 37m. r.m. on the last day. He souths at an altitude of

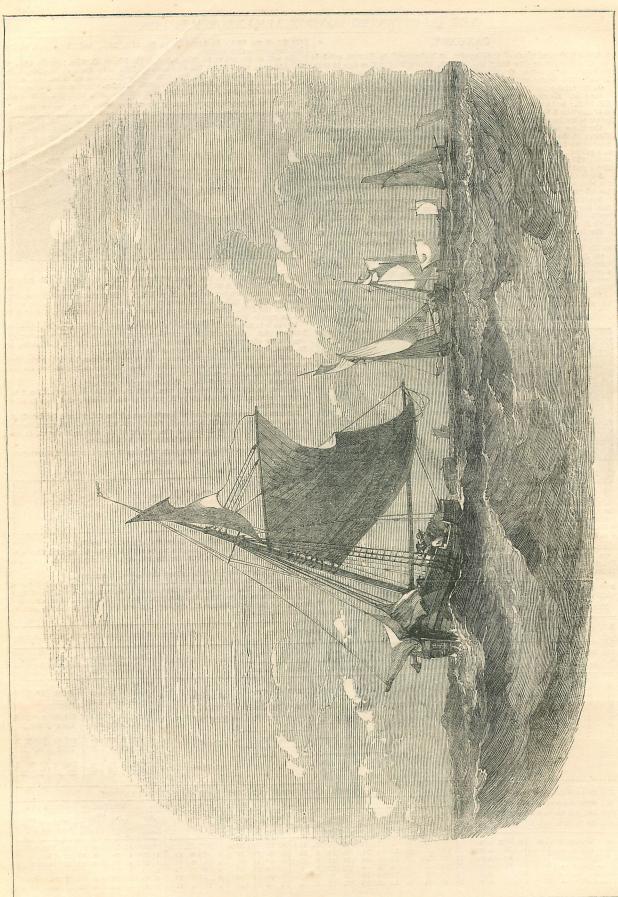
on the 1st, and at 9h. 37m. P.M. on the last day. He souths at an altitude of 37% hearly.

Uranus is in the constellation Pisces throughout the month.

He sets near the W. by N. on the 1st, at 1h. 28m. A.M., and on the last day at 1lh. 29m. P.M. He souths on the 15th, at 5h. 45m. P.M., at an altitude of 46% NEPTUNE sets on the 1st at 8h. 43m. P.M.; on the 15th at 7h. 51m. P.M.; and on the last day at 6h. 51m. P.M., midway between the W. by S. and the W.S.W. points of the horizon.

of the	TIM		THE PLA SING TH		UTHING, IAN.	OR	JUPITER'S	SATELLITES.	OCCULTA	TION	S OF STARS BY T	HE MOOR	v
Days	Mercury.	Venus. Morning.	Mars, Afternoon	Jupiter. Morning.		Neptune	1st Sat.	3rd Sat. Im. I. Emer. E.	Names of the Stars.	Magni- tude.	Times of disappear- ance & re-appear- ance of the Star.	At which limb of the Mgon.	Between what Latitudes visible.
1 6 11	н. м. 0 39 0 54 1 9	H. M. 11 0 11 8 11 16	н. м. 10 36 10 10 9 46	н. м. 4 54 4 35 4 15	н. м. 5 27 5 8 4 50	н. м. 3 37 3 18 2 59	D. H. M. 5 2 6 A.M. 12 3 59 A.M. 19 5 52 A.M.	D. H. M. 4 2 27 A.M. E. 11 3 5 A.M. I. 11 6 24 A.M. E.	45 Leonis	6	D. H. M. 2 6 30 A.M. 2 7 25 A.M.	Dark Bright	7° N. & 89° N.
16 21 26 31	1 20 1 27 1 22 1 3	11 23 11 31 11 38 11 44	9 24 9 3 8 43	3 55 3 35 3 15	4 31 4 13 3 55	2 40 2 21 2 2	21 0 21 A.M. 28 2 14 A.M.	18 7 2 A.M. I.	Xi 2 Ceti	4	{21 5 4 P.M. 21 5 50 P.M.	Bright Dark	22° N. & 90° N.
31	1 3	11 44	8 25	2 54	3 37	1 42	2nd. Sat.	4th. Sat	f Tauri	5	{22 9 57 P.M. 22 10 52 P.M.	Bright Dark	10° N. & 90° N.
					100 - 14 - 1		10 0 43 A.M. 17 3 18 A.M. 24 5 53 A.M.		115 Tauri	5	{24 8 16 P.M. 24 9 29 P.M.	Bright Dark	9° N. & 74° N.

1					100000000000000000000000000000000000000						-					
1	TIMES OF CHANGES OF THE MOON,	the .		harden-	T	RIGHT	ASCENSI	ONS A	ND DEC	LINAT	IONS OF	THE P	LANETS			
I	And when she is at her greatest distance	of of	MERC	URY.	VEN		MAT		JUPIT		SATU		URAN		NEPT	UNE.
	(Apogee), or at her least distance (Perigee), from the Earth in each Lunation,	Days	Right Ascension	Decli- nation South	Right Ascension	Declination South.	Right Ascension	Declination North.	Right Ascension	Declination North,	Right Ascension	Declination South.	Right Ascension	Declination North.	Right Ascension	Decli-
	LAST QUARTER 5D. 8H. 37M. A M. NEW MOON . 13 11 19 A M. FIRST QUARTER 21 9 40 A.M. FULL MOON . 23 0 51 A.M. APOGEE 12 8 A.M. PERIGSE 27 4 A.M.	6 11 16	20 31 21 3	22 53 20 50 18 14 15 21	18 11 18 38 19 6 19 33	23° 10′ 23° 24 23° 21 22° 59 22° 19 21° 23	5 15 5 11 5 8 5 6	26° 29′ 26° 25 26° 20 26° 14 26° 10 26° 6	11 37 11 37 11 36 11 36	3° 57′ 3 56 3 58 4 2 4 7 4 15	0h. 11m 0 12 0 13 0 14 0 15 0 17	1° 26′ 1 19 1 11 1 1 0 51 0 41	Ih. 24m 1 24 1 24 1 24 1 24 1 25	8 11 8 12	22 21 22 21 22 22	11° 11′ 11 7 11 4 11 0 10 57 10 54



NOTES ON NATURAL HISTORY.-JANUARY.

THE common wren, "Kitty wren" as the bird is familiarly called by children, is one of the few of the feathered race which remain near dwelling-houses nearly all the year. Like its companion, the robin, it seems quite indifferent to



the cold; and it hops about as gaily when frost and snow are on the ground, as in the brightest days of summer. The female is very particular about her nest: sometimes, when she has half finished it, she appears to take a dislike to the spot; and, after surveying it carefully, and hopping from post to tree, and from tree to rail, and holding her little head first on one side and then on the other, as if she were weighing all the advantages and disadvantages of the place, she seems finally to make up her mind, and either sets to work to finish her nest out of hand, or she flies off to some more convenient situation, where she begins a new one. Wherever the nest may be placed, the wren

common when.

begins a new one. Wherever the nest may be placed, the wren is never satisfied with its situation unless it is well sheltered from the rain; and on this account she always chooses a nock under the thatch, the cavity in a hollow tree, the projecting bank of a hedge, a hole in a hayrick, or some similarly protected place. The material used in building the nest is generally that which is nearest at hand, and, of course, differs in different situations; one that was built near a schoolroom being actually constructed in great part of the scrapings and feathers of writing quills! The wren is generally very desirous to conceal her nest; and when he has brought a bundle of moss almost as large as herself, she will hop about from branch to branch, carrying her load with her, "anxiously waiting for some slow-walking passenger to move away before she ventures to approach the spot where the nest is in progress." Mr. Knapp, in his "Journal of a Naturalist," relates, among the stratagens of a wren to conce al her nest from observation, that she had formed a hollow space in the thatch inside a cow-shed, in which she had placed her nest by the side of a rafter, and finished it with her usual neatness; but, lest the orifice of the cell should engage attention, she had negligently hung a ragged piece of moss on the straw-work, concealing the entrance and apparently proceeding from the rafter; and so perfect was the deception, that it would not have been noticed, had not the bird betrayed her own secret by darting out. When the wren is sitting, if she sees any one approaching her, she gives utterance to a peculiar cry of rage, which sounds like "Check! check!" and she repeats this many times with vehemence, as though she were scolding outrageously, particularly when the intruder appears frightened and runs away; in which case the wren sometimes follows to a considerable distance, with loud manifestations of anger. The nest is very large in proportion to the small size of the bird, and so deep that the young ones are

The numerous progeny, claimants for food Supplied by two small bills, and feeble wings Of narrow range; supplied—ay, duly fed—Fed in the dark, and yet not one forgot.

The wren, in England, is generally kindly treated, even by boys; but, in Ireland, hunting the wren is a favourite pastime on Christmas Day. The hunting is performed with two sticks, one of which is used to beat the bushes, and the other to throw at the bird. Mr. Yarrell mentions that "it was the boast of an old man who died at the age of a hundred, that he had hunted the wren for the last eighty years, on Christmas Day." On St. Stephen's Day (December 26th) the children used to exhibit the slaughtered birds on an ivy-bush, decked with ribbons of various colours, and to carry them about, singing—

The wren! the wren! the king of birds! The best of all that live in the farze;

and to collect money to bury the wren. In some places the wren itself is hunted on St. Stephen's Day. Happily, this barbarous custom is now abolished, except in some few places in the couth of Ireland. The feeling of the children in England with respect to the wren is very different; as, so far from hunting the bird, or wishing to injure it in any way, they have a superstitious feeling that it is unlucky to hurt it, and, con-equently, boys that delight in attacking every other kind of bird that falls in their way, respect the wren, and would tremble at the thought of killing one.

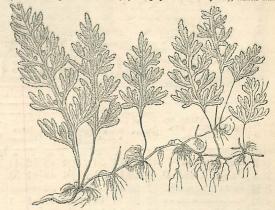
unlucky to hurt it, and, con-equently, boys that delight in attacking every other kind of bird that falls in their way, respect the wren, and would tremble at the thought of killing one.

In January, vegetation is, of course, suspended; and the only green leaves that appear through the snow are those of evergreens, particularly those of the pine and fir tribe, which, when the snow is partially melted and again frozen, have a very singular and beautiful effect; as the delicate tracery of their branches, gracefully drooping from the weight of the brilliant icicles which hang from them, is so striking as to give the idea of the garden of a fairy palace rather than any object of ordinary occurrence. After a hoar frost, the trees are still more beautiful. Trees that shed their leaves are generally considered to present ino beauty in winter; and yet it is impossible to look at the leafless limbs of a large tree in the depth of winter, particularly when the earth is covered with snow, without being powerfully struck with the wonderful difference presented by the tracery of different trees when no longer obscured by the leaves, and the outline of their numerous branches is clearly shown by the white ground beyond. Any one accustomed to trees could never, even in the month of January, mistake an oak for an ash or a poplar. The sturdiness of the oak, and the shortness of its trunk in proportion to its thickness, and the peculiarly rugged character of its branches, mark it as distinctly in the middle of winter as when it is covered with leaves, or even with acorns. The black Italian poplar, on the contrary, has its stem exceedingly long in proportion to its thickness; and its branches; and they exceedingly long in proportion to its thickness; and the extremity. The Lombardy poplar is still more peculiar in its appearance. It grows very high in proportion to the thickness of its stem, and its long slender branches all taper upwards, so as to give the whole tree the shape of a fiame. The willow has long, slender, drooping b

excite indignation from this appearance in the minds of those who are not acquainted with the general habit of the tree. The American plane tree only ripens its seeds in this country in warm summers; and as, when the seed-vessels burst, and the seeds are scattered, each being furnished with a little white feathery plume, they have a cottony appearance, this tree, in North America, is called the cotton-tree. The black Italian poplar has its seeds enveloped in a white cottony down, which falls in such abundance when the seed-vessels burst, as to entitle it also to be called the cotton-tree, as the ground at the foot of the tree is often quite covered over with white cotton, which looks as though it could be used for carding and spinning. The catkin of the black English poplar, on the contrary, is red, and, when it falls, it looks so like the larva of the goatmoth, that children are sometimes afraid to pick it up. The chark when devoid of leaves, has much less grandeur about it than the oak. The Scoteh elm has widely-spreading branches; but those of the English elm are small, and somewhat slender in comparison with the size of the tree. The bark is also rough, particularly that of the variety called the Cornish elm, which is very rough, and has often deep fissures in it. The weeping elm is particularly beautiful; and though a few years ago it was comparatively unknown, it is now becoming common in plantations. The beech is remarkable for the smoothness of its bark; and the birch for its silvery hue, and also for the lightness and elegance of its branches, which, in early spring, are adorned by long feathery catkins, which are almost as ornamental as flowers.

The lower shrubs are seldom ornamental in winter, unless the season is mild, when the Laurustinus is covered with flowers. It is singular enough that the Aúcuba japónica, though it is a native of Japan, will bear the severest frost uninjured, though the sweet bay and many other similar plants are killed. The Aúcuba japónica is interesting in other points of v

When the ground is covered with snow, few ferns are visible; but, as soon as the snow begins to melt away, the rocks about Tunbridge Wells, and in many other places, are covered with the evergreen kinds; and among them is occasionally seen an elegant little fern (Hymenophyllum tunbridgense), which hangs



HYMENOPHYLLUM TUNBRIDGENSE.

down, "clothing," as Sowerby expresses it, "the shaded, perpendicular faces of down, "clothing," as Sowerby expresses if, "the shaded, perpendicular laces of dripping rocks and caverns," with its filmy fronds, which lie over one another, "like the half-ruffled plumage of a bird," and form a kind of tapestry of half transparent, shaded green. These ferns are remarkable for the extreme delicesy of their leaves, or fronds, which become brown or shrivelled if exposed to the sun and a drying air even for a few hours, but which are extremely beautiful when quite freeh and moist. The species, though called the Tunbridge fern, is yet found in many other parts of England, and in the south of Scotland. At this season of the year, the few insects that are still alive are mostly in a torpid

alive are mostly in a torpid state, except the cricket (Achèta doméstica), whose merry chirp is still louder in winter than in summer, on account of the additional



THE CRICKET.

fires that are required at this season; as the cricket, perhaps more than any fires that are required at this season; as the cricket, perhaps more than any other insect, enjoys warmth. When we hear the chirp of a cricket, we naturally suppose that it is a sound uttered from the mouth, but this is by no means the case. The cricket has two wings, which are covered with wing-cases of a leathery consistency, and these wing-cases the cricket rubs against its body with a very brisk motion, whereby it produces its sound. We are told that crickets are used in Africa to promote sleep; but in this country they appear more likely to destroy it, as the noise they make is sometimes so loud as to be extremely disagreeable. It has been remarked that the chirp becomes louder in proportion as the heat increases, and it is extractly difficult to silenge the crickets in any way.

agreeable. It has been remarked that the chirp becomes louder in proportion as the heat increases, and it is extremely difficult to silence the crickets in any way but by putting out the fire.

Most insects die at the commencement of winter, leaving their eggs to continue their species; and these, by a wonderful provision of nature, they lay, late in autumn, on the stems and branches of plants, and not upon the leaves, as they do in summer—the wonderful instinct that has been implanted in them warning them that thus only can they secure the welfare of their progeny. It has also been observed that the eggs which are to be hatched in summer are fixed only very slightly to the leaves on which the young are to feed; but in autumn the eggs which are attached to the trunk and branches are fixed firmly and covered with the greatest care, so as to enable them to resist all the alternations of weather to which it is likely they will be exposed.



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	1		!			SUN			-		OON.		_ I	URA	TION	OF M	CONLIGHT.	HIGH	WATER	944
M	w	ANNIVERSARIES, OC-				SOUTH	-			Sot	THS.	SETS.	Befor	re Su	nrise.	100	After Sunsat.	AT LONDO	N BRIDGE.	v of Year.
D	D	CURRENCES, FES- TIVALS, &c.	Ri	ISES.	Befo	re 12	Height above horizon	SETS.	RISES.	Mornin	ight ove izon	Morning.	0'	Clock	ě.	Moon'	O'Clock.	15	1	Day the Ye
	1	TIVALIS, &C.			o'Cl	lock.	He ab hor		Afternoo	n Moini	Heig abo	Moining.	2h.	4h.	6h.	NA A	6h. 8h. 10h.	Morning	Afternoon	7
_	-		н.	м.	M.	s.	Deg.	н. м.	п. м.	н. м	I. Deg.	н. м.						н. м.	н. м.	
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4	Section 1	Pleiades south 6h 40m P.M.	7	36	14	14	221	4 52	1 1	6 1	0 261	11 11	2	-		7		7 15	7 35	35
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7	TH	Aldebaran souths 7h 17m	7	30	14		$23\frac{1}{4}$	4 57	4 8		0 194	0 53			_	(2)		10 25	11 5	38
8	F	Half-Qu. Day	7	29	14	29	$23\frac{1}{2}$	4 59	4 56	9 1	7 19	1 37			1	26		11 40	No Tide.	39
9	S	Capella souths 7h 48m P.M	7	27	14	31	233	5 0	5 43	3 10	5 19 3	2 28				27		0 17	0 44	40
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18	M	Day inc. 2h.20m.	7	11	14	14	$26\frac{3}{4}$	5 18	10	5	5 50	Morning.				6		5 50	6 5	49
19	Tu	Length of day 10h 10m	7	9	14	8	271	5 19	10 31	5 5	7 531	0 22						6 30	6 50	50
20	W	Ember Week	7	7	14	2	271	5 21	11 9	6 5	2 56	1 34				8		7 15	7 40	51
21	TH	Beta Tauri souths 7h 12m	7	5	13	55	28	5 23	11 52	7 5	0 571	2 45	-///	% %		()	0 0	8 15	8 55	52
22	F	Day brk. 5h. 9m.	7	3	13	47	281	5 25	Afternoon	8 5	0 573	3 51		3		10		9 35	10 15	53
23	S	Alpha Orionis souths 7h	7	1	13	39	283	5 27	1 55		11.4	4 50						11 0	11 45	54
21	1	2ND S. in LENT.	6	59	13	00	29	5 29	3 7	The state of	0 54	5 40	-	_ ///		12		No Tide.	* -	55
25	M	Matthias		56	13			5 30		1-0			-	-	2/1/1/1	13				
20	TL		6	777	10	71	2		4 20	1	1		-	-	11/1		700	0 50	1 20	56
20		Sirius souths Sh 14m P.M.	6		13		4	5 32	5 44	120000000000000000000000000000000000000		6 56			1/4			1 45	2 10	5/
27	10000	Twilight ends 7h 27m P.M.	6	100000	13		4	5 34	7 2		3 493	7 28			1	15		2 35	2 55	58
28	TH	Castor souths 7h 52m P.M.	6	50	12	49	$30\frac{1}{2}$	5 36	8 18	1 3	5 415	7 55				16		3 20	3 40	59
																	the sales and			

FEBRUARY.

THE SUN is situated south of the Equator, and is moving north. He is in the sign Aquarius till the 18th, having been in this sign 29 days, 14 hours, 45 minutes. On the 18th, at 11h, 5m. p.m., he enters the sign Pisces (the Fishes). His distance from the Earth on the 1st day is 93,643,000 miles. He rises on the 11th at the E.S.E.; and on the last day at 10½ S. of E. by S. He sets on the same days at the W.S.W., and about 10½ S. of the W. by S. points of the horizon. On the 12th day there will be an Eclipse of the Sun, but it will not be visble in Europe. It will be visible at places situated for some distance both north and south of the Equator, whose longitudes east of Greenwich are less than 160°. It will be central and annular at the island of Madagascar, and parts of the Indian Ocean. The Eclipse begins on the 12th, at 3h. 26m. A.M., at a place whose latitude is 15° nearly north, and longitude 126°½ east.

The Moon is in Virgo till the 3rd; then in Libra till the morning of the 5th; in Ophinchus on the 5th and 6th; Sagittarius on the 7th, 8th, and 9th; in Ca-

The Moon is in Virgo till the 3rd; then in Libra till the morning of the 5th; in Ophiuchus on the 5th and 6th; Sagittarius on the 7th, 8th, and 9th; in Capricornus on the 10th and 11th; in Aquarius on the 12th and 13th; on the boundaries of Pisces and Cetus till the 17th, and skirting Aries and Cetus on the 18th; in Taurus on the 119th and 20th; in part of Orion, crossing the Milky Way, on the 21st; in Gemini on the 22nd; in Cancer on the 23rd and 24th; in Leo on the 25th and 26th; and in Virgo from the 27th to the end of the month.

She is above the horizon when the Sun is below, during the morning hours at the beginning and at the end of the month, and the evening hours from the middle till towards the end of the month.

She is on the Equator on the 1st; at her greatest south declination on the 8th; is on the Equator again on the 15th; at her extreme north declination on the 22nd; and on the Equator a third time this month on the last day.

She is near Mercury and Venus on the 11th; Saturn on the 15th; Uranus on the 16th; Mars on the 21st; and Jupiter on the 27th.

MERCURY is in the constellation Capricornus till the 5th, on which day he passes into Aquarius.

He is an evening star at the beginning, and a morning star at the end of the month. On the 1st he sets at 6h. 3m., being 1h. 15m. after the Sun has set; on the 5th, at 5h. 32m., being 38 minutes after the Sun; and on the 9th, he sets before the Sun. He rises on the 3rd at 7h. 37m.; on the 15th, at 6h. 21m., being before the Sun. He rises on the 3rd at 7h. 37m.; on the 15th, at 6h. 21m., being 55m. before the Sun; on the 20th, at 6h. 5m., being 1h. 2m. before the Sun. The times of rising from the 18th to the 26th precede the times of sunrising by quantities somewhat more than an hour; and on the 28th he rises at 5h. 52m. Being 58 minutes before the Sun. He is favourably situated after sunset during the first three days, and before sunrise between the 18th and the 26th. He sets at the beginning of the month about 6°3 S. of the W. by S. point of the horizon, and he rises about the middle of the month near the E.S.E. point of the horizon. He is near Venus on the 9th, and the Moon on the 11th; but these phenomena are not well situated for observation. He moves westward amongst the stars till the 17th; is almost stationary till the 20th; and moves eastward from the 21st, as shewn in the annexed diagram.

PATH OF MERCURY FROM JANUARY 1 TO MARCH 31, 1850.



S cale, 24 degrees to one inch.

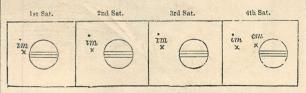
VENUS is in the constellation Capricornus till the 15th, and in that of Aquarius from the 16th. She rises and sets at nearly the same times as the Sun, and is, therefore, unfavourably situated for observation. She moves eastward among the stars; is in inferior conjunction with the Sun on the 7th; is near Mercury on the 9th, the Moon on the 11th, and Saturn on the 15th. Her telescopic appearance is the same as in January.

Mars is in the constellation Taurus throughout the month; on the 16th again touches the Milky Way; and, after this time, he is situated within it. He is visible almost throughout the night, and sets on the 1st, at 5h. 2m. A.M.; on the 15th, at 4h. 16m. A.M.; and on the last day, at 3h. 44m. A.M., near the N.W. point of the horizon. He moves very slowly eastward among the stars; is near the Moon on the 21st; and souths at an altitude of 64°2. His motion and relative position to the stars are shown in the diagram in March.

JUPITER is in the constellation Virgo till about the 11th, when he passes into Leo. He rises on the 1st, at 8h. 20m. p.m.; and on the last day, at 6h. 16m. p.m., at nearly the E. by N. point of the horizon. He is visible throughout the night; souths on the 1st at an altitude of 43°, increasing to 44° on the last day. He moves slowly westward among the stars, and is near the Moon on the 27th. See the diagram, shewing his path in the heavens and relative position to the large stars near him, inserted in May.

JUPITER'S SATELITES.—The disappearance of the satellite by entering into the shadow of the planet is called an immersion; and its re-appearance at coming out of the shadow is called an emersion. These phenomena, called eclipses of Jupiter's Satellites, generally take place when the Satellite is apparently at some distance from the body of the planet; except at times when he souths about midnight, when they take place near to his body. When Jupiter souths before midnight, both the immersions and the emersions happen on the eastern idea. It with the courte after midnight that they take place on the watern side of before midnight, both the immersions and the emersions happen on the eastern side; but when he souths after midnight, they take place on the western side of the planet: and if viewed by means of a telescope which does not invert, such would be their positions; but if an inverting telescope be directed to Jupiter, which are really on one side, will appear to be on the opposite side. When Jupiter souths after midnight, the immersions only of the first satellite are visible; and when he souths before midnight, the emersions only. It rarely happens that both the immersion and emersion of the second satellite can be observed at the same celipse, but both phenomena are generally visible of the third and fourth satellites. Jupiter souths this year at midnight on the 12th of March. Several immersions and two emersions of the 4th are visible: the relative position of the satellite to Jupiter, at the instant of the celipse, is shown in the annexed diagram, as viewed through an inverting telescope.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IM-MERSION OR EMERSION.



SATURN is in the constellation Cetus throughout the month.

He is an evening star, and sets at the W. point of the horizon on the 1st, at 9h.

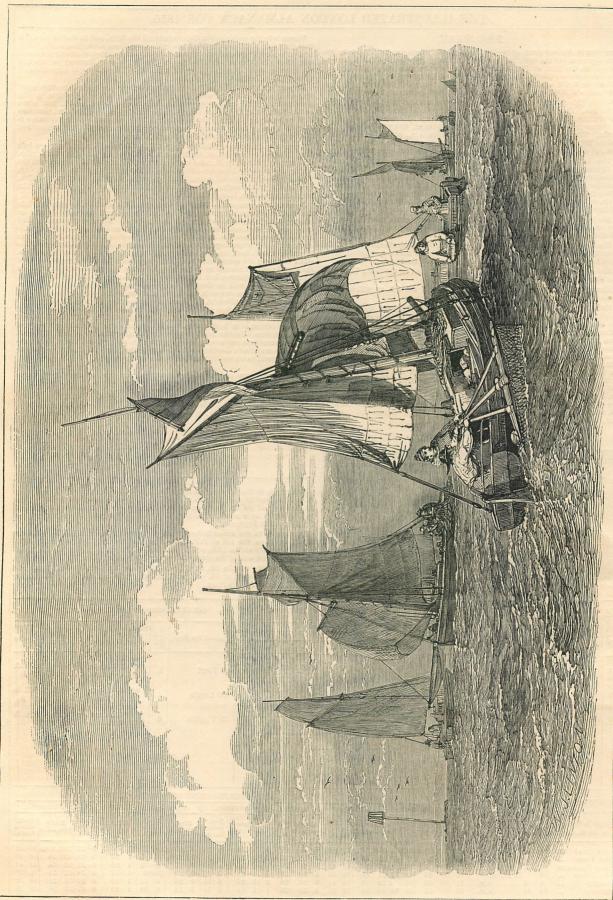
34m. P.M.; and on the last day, at 8h. 7m. P.M. He souths at an altitude of 38% nearly. He is near the Moon on the 15th. For his path in the heavens, see the diagram in September.

URANUS is in the constellation Pisces throughout the month. the W. by N. on the 1st, at 11h. 24m. p.M.; and on the last day, at 9h. 46m. p.M. He souths on the 15th, at 3h. 46m. p.M., at an altitude of 47°. He moves slowly eastward among the stars, and is near the Moon on the 16th.

NETUNE sets on the 1st, at 6h. 48m. p.M.; on the 15th, at 5h. 53m. p.M.; and on the last day, at 5h. 6m. p.M., midway between the W. by S. and the W.S.W. points of the horizon.

of ath.	TIM	MES OF T	HE PLAN	NETS SOL	JTHING, DIAN.	OR	JUPITER'S S	ATELLITES.	OCCULTAT	CION	S OF STARS BY T	HE MOON	٧.
Days of the Month.	Mercury.	Venus.	Mars.	Jupiter.	Saturn.	Neptune.	1st Sat. Immersion.	ard Sat. Im. 1. Emer. E.	Names of the Stars.	Magni- tude.	Times of disappear- ance & re-appear- ance of the Star.	At which limb of the Moon.	Between what Latitudes visible.
1 6 11 16 21 26 28	H. M. 0 57 0 19 Morning 11 3 10 42 10 31 10 29	н. м. 11 46 11 52	H. M. 8 21 8 5 7 49 7 35 7 21 7 8 7 3	H. M. 2 50 2 28 2 7 1 46 1 24 1 2 0 53	H. M. 3 33 33 15 2 57 2 39 2 22 2 4 1 57	H. M. 1 39 1 19 1 0 0 41 0 22 0 3 Morning	D. H. M. 4 4 7 A.M. 5 10 35 P.M. 11 6 1 A.M. 13 0 29 A.M. 20 2 22 A.M. 21 8 51 P.M.	7. H. M. 15 10 54 P.M. I. 23 2 52 A.M. I. 44th Sat. 3 10 11 A.M. I. 4 1 56 A.M. E. 20 7 49 P.M. E.	48 Tauri Chi Leonis 10 Virginis	6 4 6	р. н.м. 20 0 10 А.м. 20 1 4 А.м. 26 6 18 Р.м. 26 6 57 Р.м. 27 11 9 Р.м. 27 11 46 Р.м.	Dark	7° N. & 79° N. 58° N. & 13° S. 60° N. & 13° S.

TIMES OF CHANGES OF THE MOON,	the			RI	GHT A	SCENSIO	NS AN	ND DECL	INATIO	ONS OF T	HE PI	LANETS.			
And when she is at her greatest distance	of th	MERCI	JRY.	VENU	US.	MAE	ts.	JUPIT	TER.	SATUE	RN.	URAN	us.	NEPT	UNE.
(Apogee), or at her least distance (Perigee), from the Earth in each Lunation.	Mo	Right Ascension	Declination South.	Right Ascension	Declination South.	Right Ascension	Declination North.	Right Ascension	Declination North.	Agengion	Declination South.	Right Ascension	Declination North.	Right Ascension	Decli- nation South,
LAST QUARTER. 4D. 1H. 18M. A.M. NEW MOON 12 6 29 A.M. FIRST QUARTER 19 8 12 P.M. FULL MOON 26 At NOON. APOGEE 8 3 P.M. PERIGEE 24 11 A.M.	6 11 16 21	21h. 42m 21 24 21 1 20 46 20 46 20 56	11 33 13 11 14 53	21 22 21 47 22 11	19° 54′ 18 24 16 41 14 46 12 41 10 28	5 11 5 15 5 20	26 2 26 1 26 1	11h.33m 11 32 11 30 11 28 11 26 11 24	4°26' 4 36 4 49 5 2 5 16 5 31	0 21 0 22 0 24	0° 27′ 0 15 0 2 North. 0 24 0 38	1h. 25m 1 26 1 26 1 27 1 28 1 29	8 24; 8 28 8 32 8 37	22 24 22 25	10° 48′ 10 44 10 41 10 37 10 32 10 28



NOTES ON NATURAL HISTORY.-FEBRUARY.

In February, if the season is mild, some few birds begin to build their nests, and others to hop about and chirp cheerfully, as if feeling a strong sense of enjoyment at the first glimpse of the return of warmth and summer. To those who feel interested in the study of nature, every season has its charm; but, perhaps, at no period of the year has nature so many attractions as when every object around seems first emerging from the sleep of winter. In the depth of winter, when vegetation is quite torpid, the birds are silent; and even when they seem awakened to returning animation by the first breath of spring, their notes are weak, and their song is imperfect, the sounds being apparently uttered with difficulty; and, as the Rev. L. Jenyns observes, "to hear them labouring at a song, and only managing to get out part of it, conveys the idea of some physical impediment, which for awhile they appear unable to surmount." This is particularly observable in the chaffinch (Fringélla cœlebs), which generally utters its In February, if the season is mild, some few birds begin to build their nests, and



CHAFFINCH.

first feeble notes about the first or second week of February, but which does not attain its full song till some weeks afterwards. When its song has attained its full perfection it is generally very regular, and consists of a definite number of notes. The chaffinch sings very early in the morning; and, indeed, in summer, Jenyns tells us, it begins at three o'clock. This bird is sometimes called the bachelor, probably from Linneaus having given it the specific name of caclebs, which signifies a bachelor, because in Sweden and other northern countries the females migrate in the winter to a milder climate, leaving only the male birds behind; and these males must naturally have appeared to Linneaus so solitary that we cannot wonder he calls them bachelors. With us, however, as is observed in the "Journal of a Naturalist," the sexes do not separate at any season of the year, the flocks frequenting our barn-doors and homesteads in winter being composed of both males and females, which are easily distinguished from each other, the male bird being remarkable for the cleanliness and trimness of his plumage, which, without having any great variety or splendour of colouring, is so composed and without having any great variety or splendour of colouring, is so composed and arranged, and the white on his wings so brilliant, as to render him a very beautiful arranged, and the white on his wings so brilliant, as to render him a very beautiful little creature. The female is as remarkable for the quiet, unobtrusive tintings of dress; and, when she lies crouching on her nest, elegantly formed of liches from the bark of the apple tree and faded mosses, she would hardly be perceptible but for her little bright eyes that peep with suspicious vigilance from her covert." The same work informs us that in Gloucestershire these birds are generally called "twinks," from their constant repetition of one note resembling that word, when they are alarmed or in danger. The female chaffinch is very careful in building her nest, which is a very elegant one, curiously studded with lichens interwoven with wool, and lined with feathers and hair. She generally chooses the fork of a tree, or the centre of a mass of ivy, but in some cases she fixes her nest simply against the trunk of a tree, and in such a situation that it seems wonderful that the nest is not washed away by the first heavy storm that occurs. When the nest is closely examined it generally excites astonishment, from the neatness of its workmanship; for it is so firm and strong that it is difficult to pull it asunder. In summer the chaffinch lives principally upon insects, but in winter and very early spring it is apt to attack the seeds that are sown for the early vegetables, and also the first flowers of spring: sometimes the snowdrops, winter aconites, and also the first flowers of spring: sometimes the snowdrops, winter aconites, and the little red archangel will be found with the petals of their flowers lacerated as soon as they unfold; and sometimes the chaffinch may actually be seen tearing the flowers asunder to get at the pistil or incipient seed-vessel, which it finds at their base.

their base.

As the month advances, many birds are heard to sing, and among the earliest, after the robin-redbreast and the wren, which may be said to sing all winter, may be mentioned the hedge accentor, or hedge sparrow, the tom-tit, the skylark, the thrush, and the blackbird; and, in short, the melody of the woods may be said to have begun. "To me," says Mr. Waterton, in one of his charming essays, "to me, whom kind Providence has destined to spend the best part of my time in the open air, the song of birds is soothing beyond expression; and whilst I am admiring the beauty of the rising flowers around me, I know no greater addition to my gratification than that of listening to it. How enchanting is it to inspect the early snow-drops, those 'fair maids of February,' whilst the stormcock is pouring forth his newly-acquired notes from the top of a neighbouring elm! and how delightful it is to hear cock-robin's carol on the thorn that affords a shelter to the humble primrose!" affords a shelter to the humble primrose!"

Sweet are the omens of approaching spring,
When gay the alder sprouts her winged leaves]
When tootling robins carol-welcomes sing,
And sparrows chelp glad tidings from the eaves.

What lovely prospects wait each wakening hour,
When each new day some novelty displays;
How sweet the sunbeam melts the ercens-flower,
Whose borrow'd prides shines dizend in his rays.
Sweet, new-laid hedges flush their tender green;
Sweet, new-laid hedges flush their tender green;
An his were it sail that I'm denied to share;
Want's painful hindrance holds me to her stall.
But still Hope's smiles uppoint the thorns of Care.

The flowers of early spring are, indeed, most highly prized, not only for their natural beauty, but because they come to us with all the charm of novelty, and as a promise of the further pleasures which are in store for us; and hence we seldom feel so much delight in viewing any of the most orgeous flowers of summer as we do when we first perceive the graceful form of the snow-drop peeping through the ground, or the bright yellow of the winter aconite, sneceeded by the richer yellow striped with brown, and the delicate white striped with pale lilac, of the cloth of gold and Scotch crocuses. These are followed by the primrose, with its pale yellow flowers peeping out from every bank, and the beautiful little white wood anemone, with the golden flowers of the buttercups, and the lesser celandine. But among these flowers, which have been so often mentioned, and whose beauties have been enlarged upon by every author who has written on the spring, there are others which have been passed by comparatively unnoticed, though almost equally common. In the depths of Epping Forest, particularly at High Beack, where the noble trees form avenues which lock like the stately aisles of some magnificent Gothic cathedral, may be found a little British plant, which, when it first appears above the ground, which it does in the beginning of March; and, strange to say, they grow from the centre of the leaves, and are succeeded by bright red berries, which also grow from the most and butterfles, except in some instances where the eggs have been deposited in situations fully exposed to the sun. The water beetles, a





wet. Sometimes a number of these beetles are found crowded together as if to keep each other warm. In all cases, the ground beetles appear to winter in a perfect state, and in

are found crowded together as if to keep each other warm. In all cases, the ground beetles appear to winter in a perfect state, and in places whence they can easily emerge whenever a few fine days incline them to do so. Thus, they are frequently seen in February, or, in fact, whenever a few warm days have given the first indications of spring. The ground beetles are so called because they are very seldom seen except on the ground. Most of the species, indeed, are incapable of flying, as they have only the rudiments of wings; and those that have wings very rarely make use of them, as they are generally too short and too weak for the purposes of flight. The insects are, however, very active, running away with the greatest quickness when when one of the ground and under stones. They generally shows the stone one of the ground and under stones. They generally shows the seven one of the ground beetles is injured in any way, or appears feeble or ill, the others are sure to attack him and devour him. When taken in the hand, they eject a drop of very acrid liquor, which has a very strong disagreeable smell, and which burns the hand like caustic, leaving a black or brownish stain which it is very difficult to efface. The grubs of these insects are found generally in rotten wood, and they differ from many other kinds of grubs in having six scaly feet, and remarkably strong jaws, with which they seize any caterpillars that are so unfortunate as to fall in their way. Réaumur, a French naturalist, has given us an account of the voracity of one of these grubs that is perfectly terrific. He says, that with its scaly pincers it will attack a caterpillar; and burying its head in the body, "notwithstanding the writhing of the sufferer, will persevere till the whole is devoured. The largest caterpillar is hardly sufficient for one day's nounishment; and it will eat several in the same day, when they are to be found." These grubs are so gluttonous that when they have an opportunity, they eat so much that the skin appears ready to



-	1		li .		SUN	V.		11	MO	ON		DYDIMIC	N ON	MOONITANI			
M	w	ANNIVERSARIES, OC-			Souti		1	Till ma	Sour	HS.	25.45	Before Sunrise		MOONLIGHT. After Sunset.	HIGH V		of ear,
D	D	CURRENCES, FES-	RISES	AI	ter 12	ight	SETS.	RISES.		leight bove rizon	SETS.	O'Clock.	ege.			-	NA.
		TIVALS, &c.		o,C	lock.	Height above norizon.	**	Afternoon	Morning.	Hei	Morning.	2h. 4h. 5h.	Moon' Age.	O'Clock. 7h. 8h. 10h.	Morning.	Afternoon	Da
1	-	C(T) '7	н. м		S.	Deg.	н. м.	н. м.	н. м.	Deg.	н. м.				н. м.	н. м.	-
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2		St. Chad	6 4			$31\frac{1}{4}$	5 39	10 43	3 14	A STATE OF THE PARTY OF	8 45		18		4 40	5 0	61
3	S	3RD S. in LENT	6 4	1 12	12	$31\frac{3}{4}$	5 41	11 51	4 2		9 11		19		5 15	5 35	62
4	-	Length of day 11h 1m	6 45	2 11	59	32	5 43	Morning.	4 49	241	9 40		20		5 55	6 15	63
5		Day breaks 4h 45m	6 40		45	$32\frac{1}{2}$	5 45	0 54	5 36	22	10 12		C		6 35	6 55	64
6	VIVA.	Twilight ends 7h 40m	6 38	Maria Co	31	$32\frac{3}{4}$	5 46	1 55	6 24	20	10 50		2.2		7 15	7 45	65
7		Perpetua	6 30	5 11	17	$33\frac{1}{4}$	5 48	2 50	7 12	191	11 33		23		8 10	8 50	66
8	F	O. S. Matthias	6 34	111	2	$33\frac{3}{4}$	5 50	3 39	7 59	191	Afternoon		24		9 30 1	10 15	67
9	S	Rigel souths 6h 0m P.M.	6 3	10	47	34	5 51	4 22	8 47	20	1 15		25		10 55 1	11 35	68
10	5	4TH S. in LENT.	6 28	1	31	341	5 53	5 0	9 34	213	2 14		26		No Tide.	0 10	69
11	M	Beta Tauri souths 6h 2m	6 26	5 10	15	343	5 55	5 31	10 21	241	3 18		27		0 38	1 0	70
12	Tu	St. Gregory	6 23	9	59	351	5 57	6 0	11 7	27	4 22		28		1 20	1 40	71
13	W	Alpha Orionis souths 6h 23m	6 2	1 9	43	351	5 58	6 27	11 53	313	5 29				2 0	2 20	72
14	TH	Day increased 3h 57m	6 18	9	26	36	6 0	6 50	Afternoon	351	6 39		1		2 35		73
15	F	Length of night 12h 14m	6 10	9	9	361	6 2	7 13	1 25	393	7 49		2		3 10		74
16	S	Sirius souths 7h 3m P.M.	6 13	8	52	363	6 4	7 38	2 13	441	9 0		3		3 40		75
17	S	5TH S. in LENT	6 1	8	35	374	6 6	8 5	3 2	483	11 4		4		4 15	- 0-1	76
18	M	[St. Patrick	6 9	8	17	371	6 8	8 34	3 54	521	11 27		5		4 50	- 00	77
19		Castor souths at 7h 37m P.M.	6 7	7	59	38	6 10	9 8	4 48	551	Morning.		6		5 25		78
20	W	Spring commen.	6 5	7	41	381	6 11	9 50	5 44	571	0 37		7	Fig. 1	6 5		79
21	TH		6 3	3 7	23	383	6 12	10 41	6 42	58	1 43				6 50		80
22	F	Camb. Term ends	6 1	7	5	391	6 14	11 41	7 41	571	2 44		9				81
23	S	Ox. Term ends	5 59	6	46	391	6 15	Afternoon	8 39	551	3 35		10				82
24	S	PALM SUNDAY	5 57	6	28	393	6 17	2 3	9 35	521	4 19		11		10 50 1	1 35	83
25	M	Annun. Lady D.	5 54	6	9	401	6 18	3 20	10 30	481	4 54		$\frac{1}{12}$		No Tide.	- 00	84
26	Tu	P. Geo. Will. b.	5 52	5	51	403	6 20	4 37	11 22	433	5 26		13		0 40		85
27	W	Procyon souths 7h 12m P.M.	5 50	5	32	414	6 22	P F :	Morning.	4	5 54				1 30		86
28	TH	Maunday Thurs.	5 48	3 5	13	411	6 24	7 9		383	6 19		15		2 15		87
29	F	GOOD FRIDAY	5 48	5 5	55	413	6 26	8 23	1 2	341	6 43		16		2 55		88
30	S	Pollux souths 7h 5m P:M.	5 43	3 4	36	42	6 28	9 33	1 51	293	7 11		17		3 35		89
31	S	EASTER SUNDAY		10000	18	1-4	6 30	10 39		26	7 38		17 18		4 13	4 30 9	
						31	001	-0 00	2 03	20	, 00.				4 13	4 00 3	10

The Sun is situated south of the Equator till the 20th, and north of the Equator from the 21st. He is in the sign Pisces till the 20th, having been in that sign 29 days, 23 hours, and 58 minutes. On the 20th, at 11h. 3m. P.M., he enters the sign Aries (the Ram), and Spring commences. He rises on the 3d at the E. by S., and on the 23d at the E.; he sets on the same day at the W. by S., and at the W. points of the horizon. On the first day he is 94,190,000 miles distant from the Earth. His times of southing, in common clock time, and his height above the horizon expressed in degrees at the same time, are shown on the Calendar pages in avery worth.

the horizon expressed in degrees at the same time, are shown on pages in every month.

The Moon is in Virgo on the 1st and 2d; in Libra on the 3d and 4th; in Ophiuchus on the 5th and 6th; in Sagittarius on the 7th and 8th; in Capricornus on the 9th and 10th; in Aquarias on the 11th and 12th; in Pisces on the 13th; moving on the boundaries of Pisces and Cetus on the 15th and 16th, and on those of Cetus and Aries on the 17th; in Taurus on the 18th and 19th; crossing the Milky Way during the evening hours of the 20th, being in part of Orion; in Gemini on the 21st and 22d; in Cancer on the 23d and 24th; in Leo on the 25th and 26th; in Virgo from the 27th to the 30th; and then in Libra till the end of the month.

and 22d; in Cancer on the 23d and 24th; in Leo on the 25th and 26th; in Virgo from the 27th to the 30th; and then in Libra till the end of the month.

She is above the horizon when the Sun is below, during the morning hours at the beginning and at the end of the month; and during the evening hours from the 15th to the 26th.

She is south of the Equator from the 15th to the 15th. Her greatest south declination is on the 7th; she is on the Equator on the 15th; is at her extreme north declination on the 21st, and again on the Equator on the 28th, and going south.

She is near Mercury on the 11th; Venus on the 14th; Saturn on the 15th; Uranus on the 16th; Mars on the 21st; Jupiter on the 26th; and Saturn on the 31st.

Mercury is in the constellation Aquarius till the 6th; in Capricorous from the 7th to the 10th; in Aquarius again from the 11th to the 25th; and in Pisces from the 26th.

He is a morning star all the month, and rises on the 1st at 5h. 27m.; these times being 56m., 41m., 26m., and 14m. before the times of sunrise respectively. He is not very favourably situated for observation. On the 14th, he rises near the E.S.E.; and towards the end of the month, near the E. by S. points of the horizon. He is at his greatest W. elongation on the 5th; and is near the Moon on the 11th. He moves eastward among the stars during the mouth. (See the diagram in last month, exhibiting his path in the heavens.)

VENUS is in the constellation Aquarius till the 4th, and in that of Pisces from the 5th. She is an evening star towards the end of the month, and sets on the 15th at 6th. 14m. P.M., and on the 31st at 7th. 6m. P.M., at the W. point of the horizon. She moves eastward among the stars; is in superior conjunction with the Suu on the 37td; is near the Moon on the 14th, and Saturn on the 25th. She is not yet favourably situated for observation. The annexed diagram shews her path among the stars, and her relative position to them at different times. Her

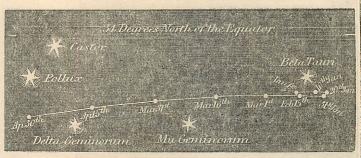
path among the stars, and her relative position to them at different times. Her

telescopic appearance is that of a complete circle, of the same dimensions as in

telescopic appearance is that of a compete tricle, of the day he enters GeJanuary.

MARS is in the constellation Taurus till the 9th, on which day he enters Gemini. He is crossing the Milky Way till the 20th, on which day he is at its W.
boundary. He is an evening star, and sets on the 1st at 3h. 4lm. A.M.; on the
15th at 3h. 2m. A.M.; and on the last day at 2h. 3lm. A.M., midway between the
N.W. by W. and the N.W. points of the horizon. He moves eastward among
the stars, and is near the Moon on the 21st. His altitude above the horizon when
he souths on the 1st is 64°½, and on the last day 64°. The amnexed diagram shews
his neah among the stars. his path among the stars.

PATH OF MARS FROM JANUARY 1 TO APRIL 30, 1850.



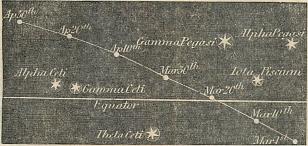
Scale, 12 degrees to one inch

JUPITER is in the constellation Leo throughout the month; he rises before JUPITER'S is in the constellation Leo throughout the month; he rises before the Sun sets. He sets after the Sun rises till the 18th, at the time of sunrise on the 19th, and before the Sun rises after this day, at the W. by N. point of the horizon. He rises on the 1st at 6h. 11m. p.m., and on the last day at 8h. 53m. p.m. He souths at an altitude of 44°½ on the last day. He moves slowly westward among the stars, and is near the Moon on the 26th. His motion among the stars during this month is shewn in the diagram in May. Jupiters's Satellites.—The Immersions of the 1st, 2d, and 3d, and an Emersion of the 2d and another of the 4th are visible. The relative position of the Satellites to Jupiter at the instant of the eclipse is shewn in the annexed diagram, as viewed through an inverting telescope.

diagram, as viewed through an inverting telescope.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMER-SION OR EMERSION.

PATH OF VENUS FROM MARCH 1 TO APRIL 30, 1850.



Scale, 24 degrees to one inch-

1st Sat. 2nd Sat. 3rd Sat. 4th Sat.

SATURN is in the constellation Cetus throughout the month; he is visible SATURN is in the constellation Cetus throughout the month; he is visible for a short time after sunset till towards the end of the month, and sets at a point a little N. of W., at Sh. 3m. on the 1st; at 7h. 16m. p.m. on the 1sth; and with the Sun on the 30th. He souths at an altitude of 40° nearly. He is near the Moon on the 15th; Yenus on the 25th; and is in conjunction with the Sun on the 31st. For his path in the heavens, see the diagram in September. Uranus is in the constellation Pisces throughout the month; he sets midway between the W. by N. and W.N.W. points of the horizon, on the 1st at 9h. 42m. p.m., and on the last day at 7h. 52m. p.m. He is moving slowly eastward among the stars, and is near the Moon on the 16th.

Neptune rises on the 1st at 6h. 38m. A.M.; on the 15th at 5h. 44m. A.M.; and on the last day at 4h. 42m. A.M.

f the	TI			NETS SOU		OR	JUPITER'S S	SATELLITES.	OCCULTA	TION	S OF STARS BY T	не моо	N.
Days of th Month.	Mercury.	Venus.	Mars.	Jupiter.	The same of the sa	Neptune.	lst Sat. Emersion.	2nd. Sat. Im. I. Emer. c.	Names of the Stars.	Magni-	Times of disappear- ance & re-appear- ance of the Star.	At which limb of the Moon	Between what Latitudes visible.
1 6 11 16 21 26 31	H. M. 10 29 10 28 10 32 10 38 10 46 10 56 11 7	H. M. 0 13 0 17 0 20 0 23 0 26 0 29 0 32	H. M. 7 0 6 49 6 37 6 26 6 16 6 6 5 57	n. m. 0 49 0 27 0 5 Aftern. 11 16 10 54 10 33	H. M. 1 54 1 36 1 19 1 1 1 0 44 0 27 0 9	H, M. 11 52 11 33 11 14 10 55 10 36 10 17 9 58	D. H. M. 15 4 46 A.M. 16 11 13 P.M. 24 1 7 A.M. 25 7 36 P.M. 31 3 1 A.M.	7 9 28 P.M. I. 15 2 51 A.M. E. 3rd Sat.	Xi 1 Libræ 3 Cancri Omicron 1 Cancri	6	D. H. M. 3 5 10 A.M. 3 5 37 A.M. 23 1 2 A.M. 23 1 54 A.M. {23 1 30 P.M. {24 0 34 A.M.	Dark Bright	2° N & 77° N. 29° N. & 90° N. 14° N. & 90° N.

TIMES OF CHANGES OF THE MOON,	the .				RIGHT	ASCENS	ions A	AND DEC	CLINA	rions of	THE	PLANET	S.		Sec.
And when she is at her greatest distance	of	MERCU	JRY.	VEN	US.	MAI	RS.	JUPIT	TER.	SATU	RN.	URAN	NUS.	NEPTU	UNE.
(Apogee), or at her least distance (Perigee), from the Earth in each Lunation.	Days		Declination South	Right Ascension	Declination South.	Right Ascension	Declination North.	Right Ascension	Declination North.	Right Ascension	Decli- nation North.	Right Ascension	Declination North.	Right Ascension	Declination South.
LAST QUARTER 5D. 8H. 5M. P.M.	11 16		15 58 14 47	22h. 49m 23 12 23 35 23 58 0 20 0 44	9° 4′ 6 41 4 12 1 41 North. 3 24	5 45 5 53 6 2		11 15 11 13	5° 41' 5 56 6 12 6 27 6 42 6 56	0 32 0 34 0 36	0° 47′ 1 1 1 16 1 30 1 45 2 0	1h. 29m 1 30 1 31 1 32 1 33 1 34	8 50 8 55 9 1 9 7		10° 27′ 10 23 10 19 10 15 10 1 ₁ 10 7



NOTES ON NATURAL HISTORY.-MARCH.

NOTES ON NATURAL HISTORY.—MARCH.

The weather in March is generally more capricious than at any other season of the year; as in this month spring and winter appear contending for the victory, and cold winds, accompanied perhaps by frost and snow, are followed by gleams of sunshine, and sometimes by days as hot as those in the middle of summer. Violent storms are also frequent at this season, particularly about the vernal equinox, and for a week or two before and after that season. The storms in England, however, are but trivial compared with those of America; and one which occurred in that country just at the breaking up of winter is so remarkable, that an account of it was published some years ago by Mr. Richard Taylor, of which the following is an abridgement. This ice-storm occurred in the year 1832, at Philipsburg, in Pennsylvania. The winter had been remarkably severe, but at the earliest commencement of spring a thaw took place, and in the open clearings all traces of snow suddenly disappeared; the birds began to sing, and the mosquitoes came out of their hidiug-places and danced in clusters in the sunshine. At night a heavy rain set in, which descended in torrents, and was accompanied by such a piercing wind that it froze as soon as it touched the trees and the ground, so as to envelope every object in a thick coating of transparent ice. In the morning the scene surpassed all description: the ground looked like an enormous lake frozen quite hard; and the trees all seemed as though they companied by such a piercing wind that it froze as soon as it touched the trees and the ground, so as to envelope every object in a thick coating of transparent ice. In the morning the scene surpassed all description: the ground looked like an enormous lake frozen quite hard; and the trees all seemed as though they had been formed of glass. The heavy foliage of the hemlock and spruce firs was literally incased in soild masses of ice, and the smallest twig or blade of grass, being surrounded by ice more than an inch thick, resembled the vegetable substances which sometimes occur in masses of crystal. While all was still, the scene was one of glittering magnificence; but when a wind arose it became terrific. The tall trees drooped and swung heavily, weighed down by the masses of soild crystal which the branches had to support, and as these struck against each other, they shivered and sent down avalanches of ice. On the succeeding morning, the limbs of the trees began to give way under such an unusual load. Every where around was seen and heard the crashing of the topmost branches, which fell to the earth with a noise like the breaking of glass, yet so loud as to make the woods resound. As the day advanced, instead of branches, whole trees began to fall; and, during twenty-four hours, the scene which took place was as sublime as can well be conceived. There was no wind perceptible, yet, notwithstanding the calmness of the day, the whole forest seemed in motion—falling, wasting, or crumbling, as it were, piecemeal. Crash succeeded to crash, until at length these became so rapidly continuous as to resemble the incessant discharges of artillery; gradually increasing, as if at first from the irregular firing at intervals of the outposts, to the uninterrupted roar of a heavy cannonade. Pines of one hundred and fifty and one hundred and eighty feet in height came thundering to the ground, carrying others before them. Groves of hemlocks were bent to the ground, carrying others before them. Groves of hemlocks were bent to

burthen than the heavily laden evergreens. The branches of the oaks rapidly gave way, while the thickly encased foliwhile the thickly encased foliage of the hemlock spruce fir hung drooping around the stems, upon their long pliant branches, until they appeared like a solid mass, or monumental pillar of ice. The weight of the trees was so prodigiously increased by the load of ice they had to sustain, that a branch of hemlock that a branch of hemlock spruce which weighed twenty pounds when covered with ice, weighed only one pound when the ice was melted. The when the ice was melted. The scene of desolation which presented itself after this "icestorm," Mr. Taylor describes as being most extraordinary. Within the limits of fifteen acres of forest fifty of the largest trees were enthrown, besides an immense number that had their branches broken. Roads were completely stopped up by the falling timber. Waggons, slades, and sleighs were necessarily abandoned, and the horses, in some instances, with difficulty saved. In the course of culty saved. In the course of a few days, however, a thaw, accompanied by heavy rain, completely cleared the droop-ing forest of the remains of its

ing forest of the remains of its unwonted covering.

As many birds build their nests in February, of course young birds are abundant in the month of March; and as, when the weather happens not to be particularly warm, there are not so many caterallars as in summer, the name of the particularly warm, the particularly as in summer. pillars as in summer, the parent birds are frequently obliged to go to a considerable



distance to obtain food for their young; and, as the young birds are thus left comparatively unprotected, they frequently fall victims to some of the many enemies by which they are surrounded. The parent birds, also, from the intentness with which they pursue their occupation, frequently run into dangers which, under other circumstances, they would have avoided, and are pounced upon by the sparrow-hawks and other birds of prey, which seem instinctively to know that it is a favourable moment for their attacks. In some cases the unfortunate birds appear to see their danger, but to be unable to avoid it; and in the "Journal of a Naturalist" a fact is related which seems to prove that the powers of some of the smaller birds are completely subdued by the presence of an enemy:—"A beautiful male bullfinch," says Mr. Knapp, "that sat pecking the buds of a blackthorn by my side, when I was overlooking the work of a labourer, suddenly uttered the instinctive moan of danger, but made no attempt to escape into the bush, seemingly deprived of the power of exertion. On looking round, a sparrow-hawk was observed on motionless wing, gliding rapidly along the hedge, and, passing me, rushed on its prey

power of exertion. On looking round, a sparrow-hawk was observed on motionless wing, gliding rapidly along the hedge, and, passing me, rushed on its prey
with undevlating certainty."

The Winter Green (Pyròla) is an elegant little plant, which grows wild in the
north of England and in Scotland, but which it is very difficult to cultivate. One
species is occasionally found in gardens, but that which has cut leaves is quite a
wild denizen of the woods, which resists every attempt at cultivation. The flower
is very pretty, as it is white with a yellow centre, and the petals have a solid waxlike appearance, somewhat like those of the camellia.

In March, the meadows in some situations are gay with daffodils, the wild
flowers of which are, perhaps, even more splendid than the cultivated varieties,
though they are much less durable. Shakespeare speaks of the daffodil in the
beautiful lines on the flowers of spring, in "The Winter's Tale:"

Daffodils,

That come before the swallow dares, and take
That come before the swallow dares, and take
The winds of March with heauty; Violets dim,
But sweeter than the lids of Juno's eyes,
Or Cythere's brenth; pale Primroses,
That die unmarried, ere they can behold
Bright Phesbus in his strength; bold Oxlips, and
The Crown Imperial.

Herrick has also addressed the following lines to the daffodil :-

Fair dasflodils, we weep to see
You haste away so soon;
As yet the early frishing sun
Has no stay, stay,
Until the hastening day
Has run
But to the evening song;
And, having pray'd together, we
Will go with you along!

We have short time to stay, as you;
We have as short a spring,
As quick a growth to meet decay,
As you, or anything:
We die
As your hours do; and dry
Away,
Like to the summer's rain,
Or as the pearls of morning dew,
Ne'er to be found again.

Will go with you along! Ne'er to be found again.

In the gardens are now abundance of crocuses of various kinds; mezereons, pink and white; the spurge laurel, one kind of which (Dáphne póntica) has fragrant flowers; and abundance of violets. The trees are beginning to come into leaf, particularly the willow, the laburnum, and the lilae; and the horse-chestnut begins to open its buds, the large scales enclosing which crack and fall off in such quantities that they may be gathered up with the hand from under the trees. The buds of the elm also throw off their scales when the leaves first open in spring. Among the other trees which come early into leaf may be mentioned the aspen and the white poplar.

The alternations of bright sunshine and rain which are common in March are extremely favourable to the appearance of gnats and other similar insects. The first of these that appear are what are called the winter midges (Trichocòra hyemàlis). "These delicate little creatures may often be seen throughout the winter and early spring months assembled in troops, alternately rising and falling

hyemidis). "These delicate little creatures may often be seen throughout the winter and early spring months assembled in troops, alternately rising and falling with rapid revolutions, in some sunny nook, even though the ground may at the time be covered with snow." As the spring advances, these midges are succeeded by others of a different species; and as the weather becomes warmer the true gnats appear. The sting of the gnat (Culex pipiens) is well known; though gnats themselves are generally so rapid in their movements, and so much dreaded whenever they appear, that very few people are aware of the delicacy and elegance of their forms. Even the sting is very curiously formed. The sucker which pierces the skin is enclosed in a sheath, which folds up as the sucker enters into the flesh: the sucker of the gnat has six lancets, and it thus inflicts a severe though minute wound.

inflicts a severe though minute wound, the pain of which is increased by an acrid liquor injected into it. When a gnatis examined under a microscope, it



the pain of which is intereased by an agratis examined under a microscope, it will be found beautifully and delicately formed; and those who will take the trouble to watch the operations of the female, when she is about to make her nest, will be very much struck with the ingenuity and admirable instinct which this little creature displays. The eggs of the gnat are pointed at the upper end and much broader below, and they are so heavy that if laid singly in the water they would sink to the bottom. The difficulty, therefore, is to contrive some mode of keeping them floating; and this the gnat performs by making her eggs into a kind of boat-shaped raft. To perform this the mother gnat fixes herself by her fore-legs to a floating leaf, branch, or anything else that may be in the water, with her body resting on the surface, except the last ring of her tall, which is a little raised; "she then crosses her two hind legs in the form of the letter X, the inner opening of which is intended to form the scaffolding of her structure. She accordingly brings the inner angle of her crossed legs close to the raised part of her body and places in it an egg, covered, as is usual among insects, with a glutinous fluid. On each side of this egg she places another, all which adhere firmly together, by means of their glue, and form a triangular figure, which is the stern of the raft. She proceeds in the same manner to add egg after egg in a vertical (not a horizontal) position, carefully regulating the shape by her crossed legs, and, as her raft increases in magnitude, she pushes the whole gradually to a greater distance; and when she has about half fluished she uncrosses her legs and places them parallel, the angle being no longer necessary for shaping the boat. Each raft consists of from two hundred and fifty to three hundred and fifty eggs, which, when all laid, float on the water secure from sinking, and are finally abandoned by the mother. They are hatched in a few days, the grubs continues to float till it is destroyed by the we





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	M	Fire Insur. due	5 2		55	454	6 43	4 2	9 0	26	2 7			24 25 26		11 25	At Midnight.	98
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13		Twilight ends 8h 57m	5 1	1 0	34	17 1 6	5 50	6 6	0 56	171	8 0				113 110 110	2 40		
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	S	4TH S. aft. EAST.	1 41	2	37 5	217	16	9 29			6 6			16		3 10		118
29		Arcturus souths 11h 38m		2	47 5	3 7	17 1	0 31	2 7 2	100	6 40			17		The second second second	1 0	0000
30	lu	Regulus souths 7h 27m	1 37	2	55 5	$3\frac{1}{4}7$	19 1	1 25	2 56 1	441	7 18			18			- 11	119
				_				- 201	- 50/1	2	101					4 201	4 40 11	120

APRIL.

THE SUN is situated north of the Equator, and on the 20th, at 11h. 16m. A.M., passes from the sign Aries to that of Taurus (the Bull), having been in the former sign 30 days, 12 hours, and 13 minutes. He rises on the 8th, at E. by N.; and on the 28th, at E. Ne. He sets on the same days near W. by N. and W.N.W. On the 1st he is 95,003,000 miles distant from the Earth.

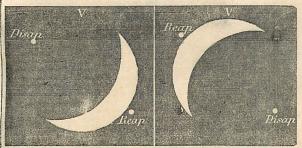
The Moon is in Ophiuchus on the 1st and 2nd; in Sagittarins from the 3d to the 5th; in Capricornus on the 6th and 7th; in Aquarius on the 8th and 9th; in Cetus, and moving near the boundaries of Cetus, Pisces, and Aries, from the 9th to part of the 14th; in Taurus on the latter part of the 14th to the 16th; in part of Orion, and crossing the Milky Way, during the early hours of the 17th; in Gemini on the 18th and 19th; in Cancer on the 19th and 20th; in Leo on the 21st and 22nd; in Virgo from the 28rd to the 26th; in Libra on the 27th and 28th: in Ophiuchus on the 29th; and in Sagittarius, on the evening of the last 28th; in Ophiuchus on the 29th; and in Sagittarius, on the evening of the last

She is above the horizon when the Sun is below, during the morning hours, for some days at the beginning and at the end of the month; and during the evening hours, from the 15th to the 27th.

She is at her extreme south declination on the 4th; on the Equator on the

She is at her extreme south declination on the 4th; on the Equator on the 11th; a ther greatest north declination on the 19th; a second time on the Equator, on the 24th; and as south of the Equator till the end of the month. She is near Mercury and Saturn on the 11th; Uranus on the 12th; Venus on the 13th; Mars on the 18th; and Jupiter on the 22nd. Her times of rising, southing, and setting, together with her height expressed in degrees at the times of southing, are given on the calendar pages for every day in the year. Her times of being full and new, are given in every month at the foot of the second page of the year month. page of every month.

OCCULTATION OF ALDEBARAN BY THE MOON, ON APRIL 15, 1850.



By direct vision, or as seen through a telescope which does not invert.

As seen through an inverting telescope.

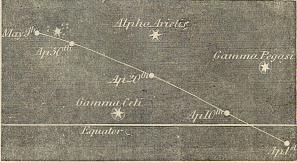
The star will disappear at the dark limb of the Moon, and will reappear at the

The star will disappear at the dark limb of the Moon, and will reappear at the bright limb; the former will take place at 8h. 3m. P.M., and the latter at 8h. 59m. P.M. The disappearance may be seen without the assistance of a telescope.

"MERCURY is in the constellation Pisces till the 4th; in Cetus from the 5th to the 11th; in Pisces again from the 12th to the 16th; in Aries from the 17th to the 29th; and enters Taurus on April 30. He rises a few minutes before the Sun till the 16th, after which day the Sun rises before this planet. He sets before the Sun till the 18th; on the 19th, he sets 9 minutes after the Sun; on the 25th, be sets at 8h. 4m.; and on the last day, at 8h. 45m.; which times are 53 minutes, and 1h. 26m. after sunset respectively. Therefore, he is favourably situated for observation during a few evenings at the end of this month. He sets on the 22nd near W.N.W., and on the last day near N.W. by N. He moves eastward among the stars throughout the month; and is near Saturn on the 10th, the Moon on the 18th. His path among the stars, and his relative position to them is shown in the annexed disgram, which is a continuation of that inserted in February. VENUS is in the constellation Pisces till the 6th; Aries from the 7th to the 26th; and in Taurursfrom the 27th.

She is an evening star, and sets on the 1st, at 7th 9m. P.M.; on the 15th, at

26th; and in Taurus from the 27th.
She is an evening star, and sets on the 1st, at 7h. 9m. p.m.; on the 15th, at 7h. 54m. p.m.; and on the last day at 8h. 44m. p.m.; on the 2nd at the W. by N., and on the 17th at the W.N.W. points of the horizon. She is moving eastward among the stars throughout the month; is near Uranus on the 7th, and the Moon on the 13th. (See the diagram in last month, exhibiting her path in the heavens, and relative position to the stars near her path.) Her telescopic appearance has almost remained unchanged since January. PATH OF MERCURY FROM APRIL 1 TO MAY 5, 1850.



Scale, 24 degrees to one inch.

MARS is in the constellation Gemini throughout the month.

MARS IS IN the constenation defining intrognous the month.

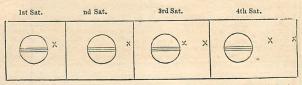
He is an evening star, and sets on the 1st, at 2h. 29m. A.M.; on the 15th, at 1h. 59m. A.M.; and on the last day, at 1h. 23m. A.M., between the N.W. and the N.W. by N. points of the horizon. He moves eastward among the stars, and is near the Moon on the 18th: his altitude above the horizon, when he souths on the 1st, is 64°; and on the last day, is 62°. (See the diagram in last month, showing bis noth emong the stars.) Jupiter is in the constellation Leo throughout the month. He sets on the 1st

at 5h. 18m. A.M.; and on the last day at 3h. 15m. A.M., at the W. by N. point of the horizon. He souths at an altitude of 45°_{2} on the 1st, and of 46°_{2} on the last day. He moves slowly westward among the stars, and is near the Moon of the 22nd. (See the diagram in next month for his position with respect to neigh-

the 22nd. (See the diagram and the bouring stars.)

JUPITER'S SATELLITES.—A few emersions of the first and second, and an immersion and emersion of the fourth, are visible. The relative position of the satellite to Jupiter at the instant of the eclipse is shown in the annexed diagram, as viewed through an inverting telescope.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION OR EMERSION.



SATURN is in the constellation Cetus throughout the month. At the beginning of the month he rises, souths, and sets at the same time nearly as the Sun, and he is unfavourably situated for observation. He souths at an altitude of 41° nearly; he is near Mercury on the 10th, and the Moon on the 11th.

URANUS is in the constellation Pisces throughout the month. He is not favourable at the state of the property of the state of the st

ably situated for observation.

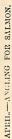
Neptune rises on the 1st, at 4h. 38m. A.M.; on the 15th, at 3h. 42m. A.M.; and on the last day, at 2h. 46m. A.M., midway between the E. by S. and the E.S.E. points of the horizon.

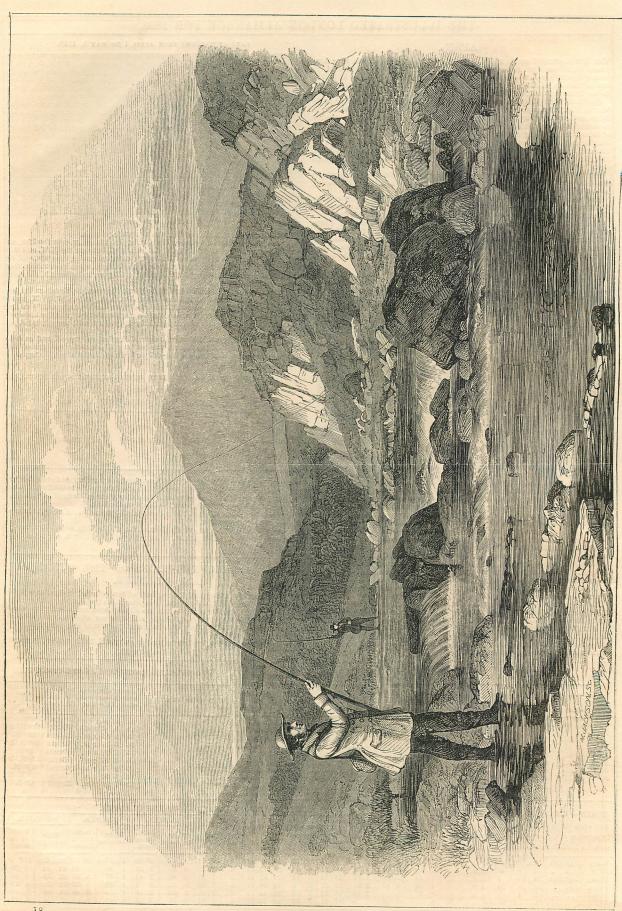
ON THE APPARENT MOTIONS OF THE SUN, MOON, AND PLANETS.

FROM the monthly account of the motions of the celestial bodies, it will be remarked that the Sun, the Moon, and the planets are incessantly shifting their places. The stars, on the contrary, as has already been remarked in previous years, maintain the same relative positions, and thus act admirably as points of reference to indicate the positions and changes of position of the other heavenly bodies. bodies.

The apparent path of the Sun is from west to east; and, in his motion, he seems (Continued on page 29.)

1-	1 11	MES OF	THE PLA	NETS SO	UTHING.	OR	1				- 11	100			OT CELTS	DW MI	T MOON	
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(A)	d when she is at her greatest distance pogee), or at her least distance (Perigee), m the Earth in each Lunation.						Right Ascension	Declination North.	Right Ascension	Declination North.	Right Ascension	Declination North.	Right Ascension	Decli- nation North	Right Ascension	Declination North.	Angention	Declination South.
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NOTES ON NATURAL HISTORY.—APRIL.

All day the low-hung clouds have dropt
Their garner'd fulness down;
All day that soft grey mist hath wrapt
Hill, valley, grove, and town.
The very earth, the steamy air,
Is all with fragrance rife;
And grace and beauty everywhere
Are flushing into life.

Down, down they come—those fruitful stores! Those earth-rejoicing drops! A momentary deluge pours, Then thins, decreases, stops; And ere the dimples on the stream Have circled out of sight, Lo! from the west, a parting gleam Breaks forth of ambor light.

THESE lines admirably describe the appearance of an April day with its alternations of rain and sunshine, which seem as though nature were struggling to shake off the dominion of winter, and to welcome summer.

Many of the migratory birds return to England in this month, and especially the cuckoo, which,

Hid in some bush, now sings her idle song, Monotonous, yet sweet; now here, now there; Herself but rarely seen.

Other birds also make their appearance in April, and one of these, the common sandpiper or summer snipe, only stays from April till September. "The habits of the common sandpiper," Mr. Yarrell observes, "are interesting; its actions



are lively, and it is mostly seen while running nimbly along the gravelly margins of rivers, brooks, lakes, or ponds. When on the ground it is in constant motion, flirting the tail up and down, and almost as frequently stretching out, and again withdrawing the head and neck. When disturbed and flushed, this bird utters a piping note on taking wing, which has been compared by Colonel Sykes to the sounds, wheet, wheet; and Mr. Selby says, that, from the resemblance to its well-known note, one of the provincial names of this species is Willy Wicket." This bird feeds on worms and insects. It is seldom seen on the sea-shore. sounds, wheet, wheet; and Mr. Selby says, that, from the resemblane to its well-known note, one of the provincial names of this species is Willy Wicket." This bird feeds on worms and insects. It is seldom seen on the sea-shore, though it is fond of fresh water, and generally makes its nest in a hole in the bank of a stream. The female, when alarmed, tries all kinds of expedients to entice strangers from her nest, and, like the female lapwing, she affects lameness, or else runs with one wing hanging down as though it were broken, in order to divert the attention of a stranger from her brood. A correspondent of the Magazine of Natural History, after stating that the common sandpiper breeds in Lancashire, adds, "and I this year started an old one from her nest, at the root of a fir tree. She screamed out, and rolled about in such a manner, and seemed so completely disabled, that, although perfectly aware that her intention was to allure me from her nest, I could not resist my inclination to pursue her, and, in consequence, I had great difficulty in finding the nest again. It was built of a few dried leaves of the Weymouth pine, and contained three young ones, just hatched, and an egg, through the shell of which the bill of the young chick was just making its way; yet, young as they were, on my taking out the egg to examine it, the little things, which could not have been out of their shells more than an hour or two, set off out of the nest with as much celerity as if they had been running about a fortnight. As I thought the old one would abandon the egg if the young ones left the nest, I caught them, and covering them up with my hand for some time, they settled down again. Next day all four had disappeared. The full-grown sandpipers can swim and dive very well; and a writer on the subject says, that when a sandpiper, flying across a river, was attacked by a hawk, it instantly dived, and remained under water till the hawk had disappeared. It then emerged and rejoined its companions. It is said that when diving, his sion, when a sanopper was snot at an wounted so that it let heat a brook, no soner was it down than it ran as quickly as possible into the water, into which it plunged as a place of refuge. This bird is supposed to pass its winters generally in the south of Europe, but it has been found at Tangiers, in Asia Minor, and even in India.

In April the greater number of the wild flowers are in perfection, and, as

Charlotte Smith sings,

The furze is yellow on the heath,

The banks with speedwell flowers are gay,
The oaks are budding, and beneath
The hawthorn soon will bear the wreath,
The silver wreath of May.

The sloe and the bullace are now in flower in the hedges, and the birds are busy pecking off the opening buds of the hawthorn and other trees. In the gardens the birds generally attack the gooseberry bushes in this month, and they have no mercy on the crocuses and other spring flowers, the petals of which frequently look jagged and torn from the laceration of their little beaks. Towards the close of the month the wild heart's-ease appears in the meadows, and if may, perhaps, be interesting to mention that this plant first excited the attention of Bartram, a calculated A mention betanist to the study of plants. He was walking in a first celebrated American botanis', to the study of plants. He was walking in a field in early spring, and chancing to see a wild heart's-ease, he gathered it, and went

on, thinking on various subjects, and carelessly plucking off the petals of the flower, without being well aware of what he was doing. He then chanced to cast his eye upon the remnant left in his hand, and was much struck with its singular appearance, as the stamens and pistil of the heart's-ease, when the petals have been stripped off, bear a considerable resemblance to a young bird when it has just issued from the shell. Bartram was so struck with this, that he gathered other flowers, and observing how curiously each was formed, he went home deeply impressed with the wonders of nature, and from that time he preferred the study of natural history to any other pursuit, and afterwards became

the first botanist of America.

In gardens in warm and yet open situations, such as the garden of the London the first botanist of America.

In gardens in warm and yet open situations, such as the garden of the London Horticultural society at Chiswick, a number of beautiful plants are in flower. The spring gentian grows close to the ground, with its large bell-shaped flowers of the deepest and richest dark blue. The Mahònia, or ash berberry, forms an elegant little shrub, with bright dark green shining leaves, and a profusion of rich yellow clustered flowers. The Judas-tree (Cêrcis Siliquaistrum) has a profusion of bright pink pea-like flowers, which are produced on the naked trunk and branches, appearing before the leaves. The Magnòlia conspicua, or Yulan-tree, produces its large lily-like flowers, also before the leaves, and they appear in such profusion that the tree is sometimes completely covered with them, as if with a sheet. There was a large tree of this kind in a nursery at Kensington, near the entrance to Kensington Gardens, which, in April, 1827, was covered with upwards of eleven hundred flowers, and had a very singular effect when seen from the road on a moonlight night, as it looked like a white pyramid among the surrounding trees, so completely was it covered with blossoms. The Wistaria, or Glijcine sinénsis, is generally in all its beauty, with its racemes of shaded lika flowers, in shape like those of the laburnum, which it generally precedes by a few days, the laburnum being followed by the Robinia Pseud-Acácia, the flowers of which are of the same shape, but of a different colour, being white slightly tinged with pink. Of all these trees, the Wistària is perhaps the most beautiful, as its flowers are delicately shaded; they are also slightly fragrant and they appear very early in spring, a second crop being often seen in August or September. Some varieties of the laburnum are also fragrant, and others are remarkably beautiful, from the great length of their drooping racemes of flowers. The Robinia, or False Acacia, is the least beautiful of the three, though it also varies occasionally, and is somet tremely ornamental in woods and pleasure-grounds, from the great profusion of its flowers.

Among the numerous insects that are found in gardens in April, may be men-Among the numerous insects that are found in gardens in April, may be mentioned the cuckoo-spit, or froth-fly, or frog-hopper; for by all these names is this curious insect popularly known. The names of cuckoo-spit and froth-fly both allude to the peculiar habit of the insect, when in the larva state, of enveloping itself in a kind of frothy secretion, somewhat resembling saliva, and which, indeed, was formerly supposed to be the saliva of the cuckoo, it being found on the young shoots of plants just about the time that the cuckoo is heard in the words. The frothy secretion the words.



deed, was formerly supposed to be the saliva of the cuckoo, it being found on the young shoots of plants just about the time that the cuckoo is heard in the woods. The frothy se cretion is supposed to be intended to preserve the tender body of the soft the sun, as it has been observed to be produced in exact proportion to the heat of the weather. It is not known exactly how the froth is produced, but it is evidently only water, to which the insect gives its frothy appearance; as, when by any chance it becomes condensed, it drops like rain from the trees on which the insect is found. It is only in its larva, or infant state, that it produces the froth. The larva and the pupa resemble the perfect insect, except that the larva has no wings, and the pupa has very small ones. The perfect insect, however, has both wings and wing-cases, and it has the power of flying to a considerable distance. Sometimes, indeed, these insects are seen in rast multitudes on the wing. Professor "that one night, about eleven o'clock, sitting in his study, "that one night, about eleven o'clock, sitting in his study, and in the pupa has a standard by Messrs. Kirby and Spence). "that one night, which is surprised him by its long the round of the room in such numbers as to cover the table. From this circumstance, and the continuance of the pelting, which lasted at least half an hour, an idea may be formed of the vast host of these insects passing over. It passed from east to west; and, as his window faced the south, the insects only glanced against it obliquely." One of the peculiarities of this insect is its power of leaping, which is so great, that, being assisted by its wings, it will sometimes leap a distance of five or six feet, which, as Messrs. Kirby and Spence observe, is more than two hundred and fifty times its own length, or as much as if a man were to take a leap a quarter of a mile high. This extraordinary activity appears to be principally ccasioned by the great length of the this, of the insect, when the insect is on glass, o



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7	Tu	St. John Evan. Beta Leonis souths 8h 40m	4		3	00		7 29	2 30	7 3	8 28	Afternoon					9 15	9 55	126
8	W	P·M·	1		3	39	$55\frac{1}{4}$	7 30	2 55	8 2	$4 31\frac{3}{4}$	2 3			25		10 30	11. 5	127
0	TH	East. Term ends	4	The same of	3		$55\frac{1}{2}$	7 32	3 18	9	$9 36\frac{1}{4}$	3 12			2.5		11 35	No Tide.	128
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11	0	[Holy Thursday Spica Virginis souths 10h 0m		19	3	237	56	7 35	4 7	10 4.	$ 45\frac{1}{2} $	5 38			28		0 45	1 5	130
12	2 3	P.M.	T	17	3	The same of the same of	$56\frac{1}{4}$	7 36	4 31	11 3	7 49 3	6 54					1 30	1 45	131
13	M	Sun.aft.Asc.Day	4	15	3		501	7 38	5 5	Afternoo		8 11					2 5	2 25	132
14	Tu	Old May Day.	4	14	3	-	563	7 39	5 42	1 29	2	9 25			100		2 45	3 5	133
15	W	Length of day 15h 29m Length of night 8h 29m	4	12	3		5/	7 41	6 28	2 28	4	10 32	14/1/2		3		3 30	3 45	134
16	Th	Day breaks 1h 0m	4	11	3	55	0/4	7 42	7 23	3 29	4	11 32					4 10	4 30	135
17	F	Twilight ends 11h 0m r.m;	4	10	3	50	573	7 44	8 28	4 28	- 4	Morning.					4 50	5 15	136
18	S	Ox. Term ends	4	81	3	53 52	573	7 45	9 39	5 26	$ 54\frac{1}{2}$	0 20			6	F 9 50 65 64	5 45	6 10	137
19	S	WHIT SUNDAY	4	5	3		58 58‡	7 47	10 54	6 21	51	1 2					6 40	7 10	138
20		Whit Monday	1	4	0		-01	7 48	Afternoon	7 12	1000	1 35			6		7 45	8 20	139
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22	W	Ember Week	1	2	3		583	7 52	2 38	8 50	3/4	2 27			10		10 15	10 50	141
23	TH	Camb. Term div.	1	0	3	36	50 1	7 53	3 49 5 1	9 37	$33\frac{1}{4}$	2 49		3///			11 25	0 0 1	142
24	F	Qu Vic. born 1819	3	59	3	31	501	7 55	6 10	10 25		3 14			1192		No Tide.	1	143
25	S		3	58	3	26	501	7 56			254	3 40			13 14		0 45	1	144 j
26	5	TRIN. SUNDAY	3	57	3		593	7 58		At Midnight Morning.	$22\frac{1}{4}$	4 6			在一个		1 30		145
27		King George I. b.	3	56	3		593	7 59	9 18	0 49	20	4 38 5 14	-		0 16		2 10	- 1	146
	Tu	Ven. Bede	3	55	3	7	60		10 10	1 38	ALEXANDER WATER	5 14 5 55		-	HEAT COLUMN		2 50		147
29	W	K. Chas. II. rest.	3	54	2	59	6018	1000	10 57	2 26	4	6 42		-	17 To		3 25	1	148
30	TH	Corpus Christi	3	53	2	52	6018	3 2	11 34	3 15	2	7 37			18 19		4 0		149
31	F	Arcturus souths at 9h 32m	3	52	2	43	6018	3 3	Morning.	4 2	203	8 35		-	$\frac{19}{20}$		4 35	1	150
100			Mary.	A NO	175		2		- Tung.	1 4	204	0 30					5 10	5 30	151

MAY.

The Sun is situated north of the Equator; and on the 21st, at 11h. 25m. A.M., passes from the sign Taurus to Gemini (the Twins), having been in the former sign 31 days and 9 minutes. He rises on the 1st at 1²½ N. of E.N.E., and on the 25th at N.E. by N. He sets on the same days at 1²½ N. of W.N.W., and near the N.W. by N. points of the horizon. On the first day he is 95,785,000 miles distant from the Earth.

The Moon is in Sagittarius till the morning of the 3d, then passes into Capricouns and into Acquires on the morning of the 3d, then passes seem wishing the same days at the Progressive minutes.

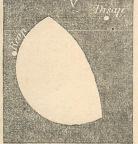
The Moor is in Sagittarius till the morning of the 3d, then passes into Capricornus, and into Aquarius on the morning of the 5th; into Pisces near midnight on the 6th; into Cetus on the morning of the 8th; and till the evening of the 1th the 1th

south declination on the 28th.

She is near Saturn on the 9th; Uranus on the 10th; Mercury and Venus on the 13th; Mars on the 16th; and Jupiter on the 19th.

OCCULTATION OF JUPITER BY THE MOON ON MAY 19, 1850. AS SEEN BY A TELESCOPE WHICH





Does not invert.

The planet will disappear at the un-illuminated limb, and will reappear at the bright limb. To observe these phenomena, a good telescope will be necessary, as the Sun will be above the horizon at the time of their occurrence. The disappearance takes place at 6h. 32m. P.M., and the reappearance at 7h. 37m. P.M. After sunset, the planet will be seen situated north of the Moon's bright limb.

Moon's bright limb.

MERCURY is in the constellation Taurus throughout the month.

He is an evening star, and sets on the 1st at 8h. 55m.; on the 5th, at 9h. 20m.; on the 10th, at 9h. 41m.; on the 15th, at 9h. 57m.; on the 20th, at 9h. 55m.; on the 25th, at 9h. 41m.; and on the last day, at 9h. 6m. On the 1st, the Sun sets earlier than this planet by 1h. 32m.; on the 5th, by 1h. 53m.; on the 10th, by 2h. 10m.; on the 13th, 14th, and 15th, by 2h. 15m.; on the 20th, by 2h. 6m.; on the 26th, by 1h. 45m.; and on the last day, by 1h. 3m. These intervals of time are the largest in the year; and the planet is most favourably situated for observation between the 5th and the 25th, and particularly about the middle of this month. On any clear evening after sunset he may readily be seen. He sets on the 1st at N.W. by N.; and during the month he sets between this point and N.W. He is moving eastward till tewards the end of the month, when he is stationary among the stars. He is near Yenus on the 2d; the Moon on the 13th; and Yenus again on the 22d. He is at his greatest eastern elongation on the 16th. His position among the stars will be seen in the diagram in July, which is a continuation of his path from that inserted in April.

At Midnight. 8 P.M.

91

2 14

PERIGEE APOGEE

URANTS IS IN the Continuation of his path from that inserted in April.

VENUS is in the content of the Classification Taurus till the 26th, and in Gemini from the 27th.

She is crossing the Milky Way from the 21st to the 31st.

She is an evening star, and sets on the 1st, at 8h. 48m. P.M.; on the 15th, at 9h. 28m. P.M.; and on the 31st, at 10h. 2m. P.M.; on the 7th, near the N.W. by 10pint of the horizon.

N. point of the horizon. She is moving eastward among the stars; is near Mercury on the 2d, the Moon on the 13th, and Mercury again on the 22d. For her

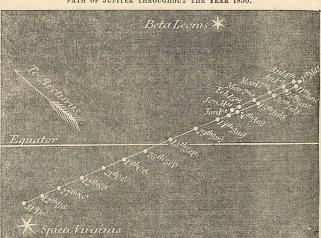
cury on the 2d, the Moon on the 13th, and Mercury again on the 22d. For her path in the heavens see the diagram in next month. Her telescopic appearance is almost that of a circle, and very little larger than that shown in January. Mans is in the constellation Gemini till the 6th. On this day he passes into Cancer. He is an evening star, and sets on the 1st at 1h. 20m. A.M.; on the 15th, at 0h. 46m. A.M.; and on the last day, at 0h. 5m. A.M.; near the N.W. by N. till the 20th day, and at the N.W. by N. on the 21st. For his path in the heavens see the diagram in next month.

JUPITER is in the constellation Leo throughout the month. He sets on the 1st, at 3h. 11m. A.M.; and on the last day, at 1h. 14m. A.M.; at the W. by N. point of the horizon. His altitude on southing is 46°\frac{2}{3} on the 1st, and is 46° on the last day. He is nearly stationary among the stars till towards the end of the month, when he begins to move slowly eastward, and is near the Moon on the 19th. His path among the stars, and his relative position to stars near him throughout the record response in the approach discrepance.

the year, are shown in the annexed diagram.

Jupiter's Satellites.—A few emersions of the first and second, and an immersion and emersion of the third, are visible. The relative position of the sa-

PATH OF JUPITER THROUGHOUT THE YEAR 1850.



Scale, 12 degrees to one inch.

tellite to Jupiter, at the instant of the eclipse, is shown in the annexed diagram, as viewed through an inverting telescope.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IM-MERSION OR EMERSION.

1st Sat. 3rd Sat. emu

ATURN is in the constellation Pisces throughout the month.

SATURN is in the constellation Pisces throughout the month.

He is a morning star, and rises E. by N. at 3h. 58m. A.M. on the 1st; at 3h. 6m.

A.M. on the 15th; and at 2h. 6m. A.M. on the last day. He souths at an altitude of
42°\frac{2}{3} nearly.

URANYS is in the constellation Aries throughout the month. He rises nearly
midway between the E. by N. and the E.N.E. points of the horizon on the 1st
day, at 4h. 5m. A.M., and on the last day at 2h. 15m. A.M.

NEPTUNE rises on the 1st, at 2h. 42m. A.M.; on the 15th, at 1h. 46m. A.M.; and
on the last day, at 0h. 44m. A.M., midway between the E. by S. and the E.S.E.
Point of the horizon.

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s of onth.	TI		THE PLA					OR		JU	PITER'	S SATEL	LITES.		0	CCULTAT	IONS	OF STAR	S BY T	HE MOOI	٧.
Days of the Month.	Mercury.	Venus.	Mars.		iter.	1	urn. ning.	Nept			Sat.	Im.	2nd Sat I. Eme	-	Names of	the Stars.	Magni- tude,	Times of di ance & re ance of th	-appear-	At which limb of the Moon.	Between what Latitudes visible.
1 6 11 16 21 26 31	H. M. 0 55 1 12 1 23 1 28 1 26 1 15 0 56	H. M. 0 58 1 3 1 9 1 16 1 23 1 29 1 36	H. M. 5 2 4 54 4 46 4 37 4 29 4 21 4 13	H. 8 8 7 7 6 6	M. 23 3 43 24 4 45 27	н. 10 10 9 9 9 8 8	M. 21 4 46 29 11 53 35	H. 7 7 7 6 6 6 6	M. 59 40 21 2 41 22 2	9 1 17 9	M. 35 P.M 30 A.M 53 P.M 48 P.M	1. 3 10 1. 5	11 47 1 3rd Sat 9 45 1		d 2 Can Regulus Jupiter Xi 1 Sa	S	6	\$ 18 3 1 \$ 18 4 5 \$ 19 6 35 \$ 19 7 36 \$ 28 11 45		Dark Bright Dark Bright Dark Bright Bright Dark	19° N. & 90° N. 60° N. & 10° S. 13° N. & 90° N. 18° N. & 69° N.
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And	when she	is at her	greatest d	istanc	e 6	lth.	ME	RCUI	RY.	VEN	US.	MAI	RS.	JUP	ITER.	SATU	RN.	UR	NUS.	NEP	TUNE.
10000	pogee), or at her least distance (Perigee),					Decli- ation lorth.	Right Ascension	Declination North.	Right Ascension	Declination North.	Right Ascensio	Declination North.	Right Ascension	Dec natio	on A goongie	Decli natio North	n Aggeneia	n Declination South.			
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9 40 9 39



NOTES ON NATURAL HISTORY.—MAY.

Among all the songsters of the grove at this season, one of the most delightful is the fauvette, or garden warbler. It is not very abundant in England, but in



GARDEN WARBLER, OR FAUVETTE

GARDEN WARBLER, OR FAUVETTE.

Belgium it is a great favourite; and it is, probably, oftener in this country than people are aware of, as it is a very shy, timid bird, and it is very difficult to obtain a sight of it. In Belgium it is frequently kept in a cage; and its song is found very little inferior to that of the nightingale. Some of the notes have a peculiar softness and sweetness, while others are more loud and powerful, and others remarkably quick and lively. "It first visits us," says Sweet, "in the spring, about the latter end of April, or the beginning of May; and its arrival is soon made known by its very loud and long song. It generally begins very low, not unlike the song of the blackbird, singing nearly all through the day, and the greater part of the time it stays with us, which is but short, as it leaves us again in August. In confinement it will sing nearly all through the year if it be treated well." In a wild state the fauvette is found in gardens and plantations, where it feeds chiefly on fruits, devouring only one kind of caterpillar, which, singularly enough, seems to be eaten by no other bird, viz. the caterpillar of the cabbacy-butterfly. It is said to eat as many as from six to ten of these caterpillars in one day. It is particularly fond of strawberries, and will attack cherries even before they are ripe. one day. It is particular before they are ripe.

before they are ripe.

The long-tailed titmouse generally builds in this month. These are pretty little birds, and their nest is curiously constructed, as it generally hangs about five feet from the ground, and is of a very curious and singular form, about the size of a small melon, with a hole on one side through which the parent bird enters. The long-tailed titmice may often be seen on a fine day in May flying round and round after one another, as if they were having a game at play. They are generally found in parties of ten or more together, the birds belonging to a brood having the habit of continuing together after they have attained their full size.

their full size.

There the green thorn her silver buds Expands to May's enlivening beam; Hottonia blushes on the floods; And where the slowly-trickling stream 'Mid grass and spiry rushes glides, Her lovely flowers the Buckbean hides.

Wound in the hedgerow's oaken boughs, The Woodbine's tassels float in air; And, blushing the uncultured Rose, Hangs high her beauteous blossoms there;

Her fillets there the Nightshade weaves, And the Bryonia winds her scollop'd leaves.

In the lone copse, or shadowy dale, Wild cluster'd knots of Harebells blow, And droops the Lily of the Vale, The Periwinkle's leaves below; The Orchis race with varied beauty see, M::.. the gay Fly or the exploring Bee.

Singular as are the shapes assumed by some of the orchideous epiphytes, those of the terrestrial Orchidaceee are scarcely less extraordinary. These plants are abundant in woods on chalky soils, particularly in the chalk pits and on the chalk hills of Kent. The flowers of the genus Orchis are all very curiously formed: the germen, or incipient seed-vessel, is long and twisted, so as to supply the place of a footstalk to the flower; and the largest petal, which is made to point downwards, in consequence of the distortion of the germen, is by far the most conspicuous part of the flower, and is termed the lip. It is this lip which represents so many curious forms; and sometimes it takes so closely the resemblance of an insect, as to deceive even an experienced eye. In one species, the monkey orchis, the lip is deeply cut, and the flower takes the figure of a little man or monkey dancing, with a hood over his head. In the lizard orchis, the lip is cut into three parts, the centre one of which is very long, and represents the tail of the lizard, while the two shorter ones form no bad representation of its feet. In the man orchis, the flower seems hung all over with effigies of little yellow men with green hats. The bee orchis, the spider orchis, and the fly orchis have all very curiously-formed flowers, bearing a striking resemblance to the insects from which they take their respective names. The fly orchis is very abundant in the chalky districts of south Kent, where it is found with the bee orchis, but is easily distinguished from all the other kinds of the genus by the blue spot in the middle of that part of the lip which forms the back of the fly. All the species which resemble insects flower in May and June, and they are all very difficult to cultivate in gardens.

In this month the great round-leaved sallow is in flower, and is very ornamental. It is one of the few species be-Singular as are the shapes assumed by some of the or-

In gardens.

In this month the great round-leaved sallow is in flower, and is very ornamental. It is one of the few species be-



FLY ORCHIS.

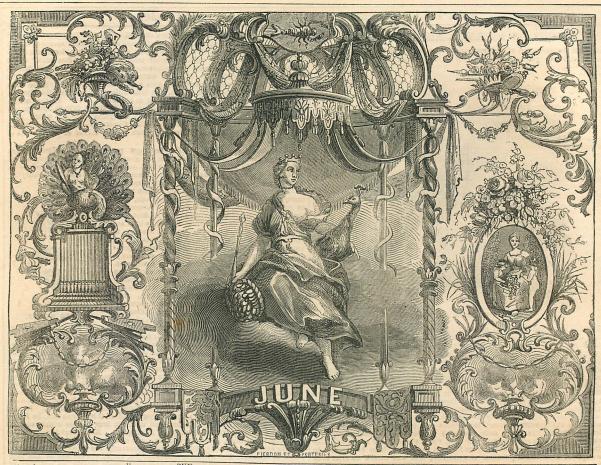
longing to the willow genus that prefer a dry soil, as most of the other kinds will only grow in marshy places, or where their roots can have free access to water. Above two hundred species of willow are known, and they vary in size from a shrub Above two hundred species of willow are known, and they vary in size from a shrub only two or three inches high, to timber trees fifty or sixty feet high. Some of the smaller kinds are used for basket-making; and there are little islands in the Thames, called holts, set aside purposely for growing them. All the willows which are used for making baskets are called osiers, and those that have woolly leaves are called sallows, the true willows having long thin leaves. All the trees included in the genus belong to the true willows. In the neighbourhood of London, and in several other parts of Great Britain, the young people gather branches of the great sallow on Palm Sunday, which they carry in imitation of palm branches. The flowers of the willow have no people gut they are organized from the right golden colour of the archers of petals, but they are ornamental from the rich golden colour of the anthers of their stamens.

In the insect world, the beetles are now particularly abundant. These creatures generally bury themselves in the ground during the winter, but at the first warmth of spring they creep out and seem to enjoy themselves in the beams of the sun. One of the most curious of the beetle tribe is the burying beetle (Necrophirus vespillo), one of the marked peculiarities of which consists in the custom which these beetles have of interring small animals, such as mice and moles, for the purpose of depositing their eggs in the decaying carcase. At first sight it appears impossible that these beetles, which are only of a moderate size, could possibly contrive to it appears impossible that these beetles, which are only of a moderate size, could possibly contrive to bury creatures so much larger than themselves; but the manner in which it is done is very ingenious. The beetle first walks round the dead body, and seems to examine it carefully on every side. It then begins gradually to remove the earth from below the body, which slowly sinks into the hollow thus made, the beetle continuing to work below it till it has descended to a sufficient depth, after which the little labourer covers the body carefully with the loses soil it has thrown out during the process of excavation. The sense of smell of these beetles, like that of many other insects, is extremely delicate, and "no sooner has any of the smaller quadrupeds perished, than one or more of these gravediggers will make their appearance, and in a few hours the corpse will be interred." It may easily be supposed that the remarkable habits of these beetles were not even guessed at for some time; and, indeed, they were



sooner has any of the smaller quadrupeds perished, than one or more of these gravediggers will make their appearance, and in a few hours the corpse will be interred." It may easily be supposed that the remarkable habits of these beetles were not even guessed at for some time; and, indeed, they were not known till 1752, when they were observed by M. Gleditsch, and a very interesting account is given of the mode in which he discovered this curious fact by Messrs. Kirby and Spence. M. Gleditsch had "often remarked that dead moles, when laid upon the ground, especially if upon loose earth, were almost sure to disappear in the course of two or three days, often of twelve hours. To ascertain the cause, he placed a mole upon one of the beds of his garden. It had vanished by the third morning; and on digging where it had been laid, he found it buried to the depth of three inches, and under it four beetles which seemed to have been the agents in this singular inhumation. Not perceiving anything particular in the mole, he buried it again; and on examining it at the end of six days he found it swarming with maggots, apparently the issue of the beetles, which M. Gleditsch now naturally concluded had buried the carcase for the food of their future young. To determine these points more clearly, he put four of these insects into a glass vessel half filled with earth and properly secured, and upon the surface of the earth two frogs. In less than twelve hours one of the frogs was interred by two of the beetles: the other two ran about the whole day, as if busied in measuring the dimensions of the remaining corpse, which on the third day was also found buried. He then introduced a dead linnet. A pair of the beetles were soon engaged upon the bird. They began their operations by pushing out the earth from under the body, so as to form a cavity for its reception; and it was curious to see the efforts which the beetles made by dragging at the feathers of the bird from below to pull it into its grave. The male having driven the fema

The caterpillar of the hawthorn butterfly is frequently very destructive at this season, feeding upon the young leaves as soon as the buds unfold, and stripping the trees so completely as to give them the appearance of winter even in early spring. The hawthorn butterfly very much resembles the cabbage butterfly; but the veins are black, and the under side of the wings is white, while the veins of the cabbage butterfly are white, and the under side of the wings is of a pale yellow. The hawthorn butterfly's eggs are of a pale yellow, and they are laid on leaves without any covering, but generally in rows close together. The caterpillars, when first hatched, are of a dirty yellow, with a black head, and a black ring just below it, and a brownish-red stripe on each side. They have destroyed every portion of the cellular tissue, so that the leaves appear quite stripped off all the frees they have attacked. These caterpillars, however, appear only occasionally, and at intervals of sometimes several years in duration; and as birds are very fond of them, great numbers are devoured. Enough, however, remain to give a most singular appearance to the hawthorn trees which they have attacked, for as they devour the whole of the fleshy part of the leaf, leaving what may be called the skeleton, which serves to support the webs they have spun, the whole of the branches appear covered with a transparent drapery of a most singular description.



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4	Tu	Length of night 7h 43m	3 50	2 6	61	8 7	1 22		34	Afternoon			2/1		8 25	9 0	155
5	W	King of Han. b	3 49	1 56	614	8 8	The second second		381	2 3			25		9 35	10 5	156
6	TH	Alpha Libræ souths 9h 42m	3 48	1 46	1077	8 9	2 8		43	3 13			26		10 35	11 5	157
7	F	Day inc. 8h. 38m.	3 47	1 35	614	8 10	2 33			4 28			27		11 95	At Midnight.	158
8	S	Spica Virginis souths 8h 9m	3 47	1 24	611	8 11	3 1		513	5 45			28		No Tide.	0 30	159
9	S	2ND S. aft. TRIN.	3 46	1 12	2	8 11	3 35		**	7 9			29		0 50	1 15	160
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11	Tu	St. Barnabas	3 45		2	8 13	5 10	1 14	58	9 21					2 25	2 48	162
12	Shirt Street	Trin. Term ends	3 45	-		8 14	6 12		58	10 16			2		3 10	3 35	163
13	200	Arcturus souths 8h 40m P.M.	3 45		1-4	8 15	7 24		56	11 1			3		3 55	4 20	164
14	F	Length of day 16h 31m	3 45		613	8 16	8 40		523	11 37			4		4 45	5 10	165
15	S	Epsilon Boötis souths 9h 2m	3 44	After 12	613	8 16	9 56		4834				5		5 35	6 5	166
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18	Tu	Alpha Coronæ Borealis sths	3 44	0 40		8 17	1 40		343	0 58	200		8		8 35	9 15	169
19	W	9h 41m r.m. Alpha Serpentis souths 9h	3 44	0 53		8 17	2 51		301	1 20	-		9		9 45	10 15	170
20	TH	Acces. Queen Vic.	3 44	1 6	The state of	8 18	3 59		261	1 46	-		10		10 50	11 20	171
21	F	Proclamation	3 44	1 19	1	8 18	5 7		$20\frac{1}{2}$	2 10	-	3 (10)	11		11 50	No Tide.	172
22	S	Summer com.	3 44	1 32		8 19	6 12		4		-		12		0 15	0 45	173
23	S	4TH S. aft. TRIN.	3 45	1 45		8 19	7 11		4		-		13		1 5	1 30	174
24		St. John Baptist	3 45				0 1	11 33	19	3 13	-			3	1 50	2 10	175
25	Tu	[Midsum. Day	-	The Party Spirit of	The second second	8 19 8 19	8 6	Control of the Control	101	3 53	-		15		2 30	2 50	176
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27		Antares souths 9h 57m P.M.	3 46	2 35	The Control of the	8 18	9 34	1 - 2 miles (1 miles 2 miles	183	5 29	-		17	3110 31110 2	3 45	1 0	178
28	F	Q. Vic. cro. 1838	3 46		-		10 9		20	6 26	-		18		4 15	4 35	179
29	100	St. Peter	3 47		-	8 18	10 38		22	7 25	-					5 10	180
		5тн S. aft. Trin.			4	8 18	11 4	-	243	8 28	-		19		5 30		181
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JUNE

The Sun is situated north of the Equator, and reaches his extreme position in north declination on the 21st. On this day, at 8h. P.M., he passes from the sign Gemini to Cancer (the Crab), having been in the former sign 31 days, 8 hours, and 35 minutes. He rises on the 1st at 19½ N. of N.E. by N.; and on the 21st at 4° N. of the same point; and sets on the 1st at 19½ N. of N.E. by N.; and on the 21st at 4° N. of the same point; and sets on the same days at 10½ N., and 4° N. of N.W. by N. It have beginning of the month, and at the W.N.W. on the 29th. He is moving eastward among the stars; and is near the moon on the 14th. His altitude above the horizon when he souths on the 1st is 57°½, and on the last day is 52°½. His the Earth.

respectively. On the 1st day he is 96,375,000 miles distant from the Earth.

The Moon enters Aquarius on the 1st; Pisces on the 3rd; in and near Cetus, passing the boundaries of Pisces and Aries, on the 4th, 5th, 6th, and 7th; in Taurus on the 8th and 9th. She is crossing the Milky Way during the evening of the 10th; is in Gemini on the 11th; enters Cancer on the evening of the 12th; Leo on the 14th; Virgo on the 16th; Libra on the 20th; Ophiuchus on the 22nd; Sagittarius on the 24th; Capricornus on the 26th; Aquarius on the 28th; and Pisces on the 30th.

She is above the horizon when the Sun is below, during the morning hours, from the 12th to the 26th.

She is on the Equator on the 5th, and going north; reaches

weening hours, from the 12th to the 26th.

She is on the Equator on the 5th, and going north; reaches her extreme north position on the 11th; then begins to move south; crosses the Equator on the 11th; then begins to move south; crosses the Equator on the 17th, near midnight; and reaches her extreme south position on the 25th.

She is near Saturn on the 5th; Uranus, on the 6th; Mercury, on the 10th; Venus, on the 12th; Mars, on the 14th; and Jupiter, on the 16th.

Mercury'is in the constellation Taurus all the month, and situated in the Milky Way.

On the 1st day he sets at 8th. 59m., and on the 7th at 8h. 14m.

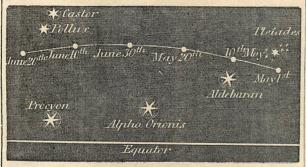
After this time the planet sets before the Sun sets. On the 15th this planet and the Sun rise together. On the 25th Mercury rises at 3th. 3m., being 43 minutes before the Sun; and which interval increases, till, on the last day the planet's rising precedes the Sun by one hour. On the 25th he rises midway between E.N.E. and N.E. by N. He moves westward among the stars till the 21st, and is stationary on the 22nd, and moves slowly eastward on the 23rd. He is near the Moon on the 10th. For his position in the heavens, see the diagram in next month.

see the diagram in next month.

Venus is in the constellation Gemini till the 17th, and in that of Cancer from

She is an evening star; and sets on the 1st, at 10h. 3m. P.M.; on the 15th, at 10h. 13m. P.M.; and on the last day at 10h. 5m. P.M. Till the 25th she sets between the N.W. by N. and the N.W.; and on the 26th at the N.W. by N.

PATH OF VENUS FROM MAY 1 TO JUNE 20, 1850.

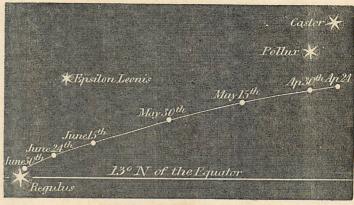


Scale, 24 degrees to one inch.

points of the horizon. She is moving eastward among the stars; is in perihelion on the 2nd, and is near the moon on the 12th. Her path among the stars is shewn in the annexed diagram, which is a continuation of that in March.

Mars is in the constellation Cancer till the 20th, on which day he passes into

PATH OF MARS FROM APRIL 24 TO JUNE 30, 1850.



Scale, 12 degrees to one inch.

path in the heavens is shewn in the annexed diagram, which is continued from that in March.

that in March.

JUPITER is in the constellation Leo throughout the month.

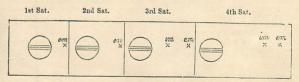
He sets on the 1st day at 1h. 10m. A.M., and on the last day at 11h. 19m. P.M.,

at the W. by N. point of the horizon. His altitude on the 1st is 46°, and is 44° and on the last day. He moves slowly eastward among the stars, and is near the Moon on the 16th. For his path in the heavens, see the diagram in last month.

JUPITER'S SATELITES.—A few eclipses only are visible. The relative position of the Satellite to Jupiter at the instant of the eclipse is shewn in the annexed diagram, as viewed through an inverting telescope.

nexed diagram, as viewed through an inverting telescope.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION OR EMERSION.



SATURN is in the constellation Pisces throughout the month.

He is a morning star; and rises near W. by N. on the 1st, at 2h. 3m. A.M.; on the 15th, at 1h. 10m. A.M.; and on the last day, 13m. after midnight. He souths at an altitude of 44°4 nearly. He is near the Moon on the 5th. For his path in the heavens see the diagram in September.

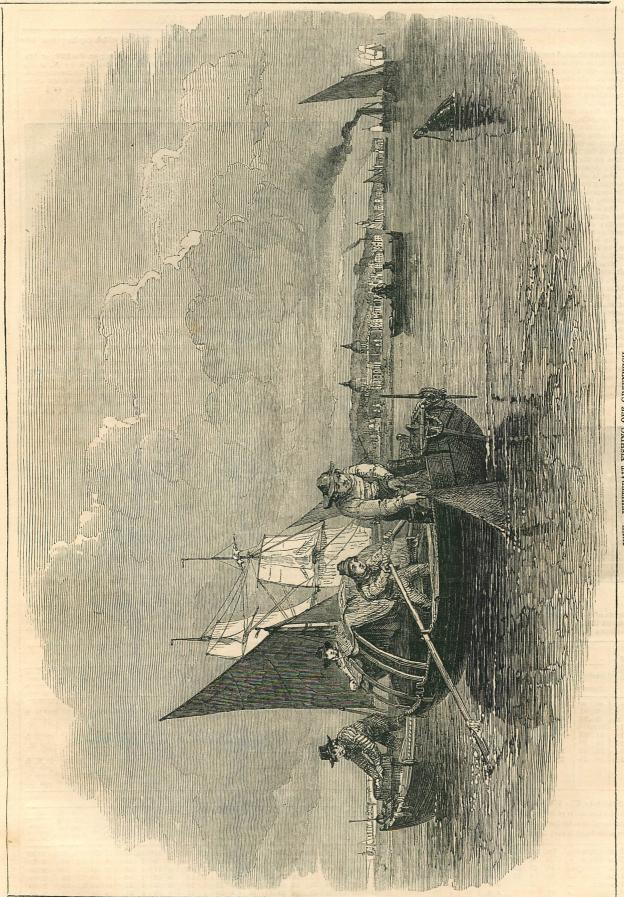
URANUS is in the constellation Aries throughout the month.

He rises on the 1st at 2h. 12m. A.M., and on the last day at 0h. 20m. A.M. He is near the Moon on the 6th.

is near the Moon on the 6th.

NEPTUNE rises on the 1st at 0h. 40m. A.M.; on the 15th, at 11h. 42m. A.M.; and on the last day, at 10h. 51m. A.M., midway between the E. by S. and the E.S.E. points of the horizon.

H. M. H. M	-				-	-													
H. M. H. M	of nth.	TI					or)	UPITER	'S SATE	LITES.		0	CCULTAT	CIONS	OF STARS	BY T	HE MOON	1.
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Add when she is at her greatest distance (Apogee), or at her least distance (Perigee), from the Earth in each Lunation. Last Quarter 3D. 3H. 47M. A.M. 1 5h. 29m 22° 29′ 6h.16m North. North Ascension North. North North. North North Ascension North. North North Ascension North Ascension North North Ascension North Ascension North North Ascension North	16 21 26	10 59	2 4	3 39	5 11 4 54	7 19 7 1	4 40 4 20	-		м			Chi Leo	onis	4	Emersio Moon wi	n the		25° N. & 90° N.
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From the Earth in each Lunation.	TI	MES OF CI	HANGES	OF THE M	00N,			1	RIGHT A	ASCENS	IONS A	ND DEC	CLINAT	IONS OF	THE	PLANETS	3.		
From the Earth in each Lunation.	And	when she	is at her	greatest d	istance 6	MI MI	RCURY.	VEN	US.	MA	RS.	JUPI	TER.	SATU	RN.	URAN	us.	NEPT	UNE.
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JUNE, -- WHITEBAIT FISHING OFF GREENWICH,

NOTES ON NATURAL HISTORY.—JUNE.

The month of June is one of the most cheerful in the year, for in it all nature seems in full enjoyment of the delights of summer before the oppressive heat of July and August is felt. In every direction crowds of young birds are trying their wings in short flights, chirping and twittering to each other, as though they were talking of the wonderful feat they were accomplishing, in venturing for the first time to fly alone. The blackcap hatches its young about this period, and it



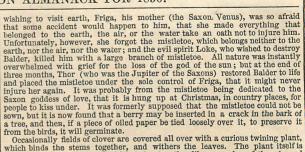
BLACKCAP WARBLER.

seems particularly partial to gardens and orchards; where, during the whole period of incubation, it makes the air resound with its harmonious notes. It has usually a full, sweet, and yet deep and loud song, and it expresses such a great variety of modulations, as to exceed every other bird in that respect, except the nightingale. One of its notes is a particularly long, soft shake, which sinks gradually into the lowest strain, though every note is perfectly distinct; till, just as it is dying away, the cadence rises and swells into a full burst of loud and joyful melody. When the blackcap sings, its throat is wonderfully distended, and its little body apparently quivers with intense delight. The nest of this bird is generally placed in some low bush or shrub, and it is built in a very firm and compact manner. The eggs are four or five in number, of a pale reddish brown, motiled with spots of a darker hue. The blackcap is very fond of ivy berries, and generally makes its nest in an ivy bush, when one is to be met with not too high from the ground. Large flocks of young redstarts are frequently seen at this season, and they attract attention by their splendid plumage of grey, red, and black. The redstart is very fond of building in crevices in old walls, or in vases, or broken parts of statues, or any architectural ornament which may be placed in a garden. "If we visit, in the summer season," says Mr. Slaney, "any one of those old castles or monastic ruins, which give so much additional interest to many parts of our country, whilst the daws respond to each other with their appropriate

many parts of our country, whilst the daws respond to each other with their appropriate respond to each other with their appropriate melancholy call, as we walk round the ruined walls and fallen fragments, this elegant bird will often flit before us; and, standing on a broken battlement or moss-grown pillar, shake his bright plumage, as if in triumph over the works of man!" It is said that when the redstart first arrives in spring, it mounts to the top of the loftiest tree, where it will sit and sing for hours, beginning at daybreak. The song of this bird is short, and not very striking, but it will sing at night as well as The song of this bird is short, and not very striking, but it will sing at night as well as in the daytime, and may be taught any tune that is whistled to it. The redstart is an active and restless bird, and, when singing, it shakes its tail with a rapid and tremulous motion.

The flowers of June comprise all the most beautiful of the floral world.

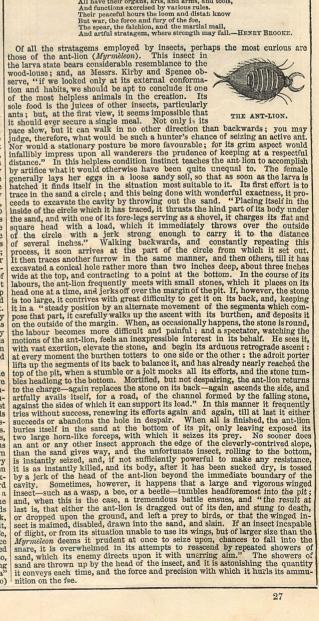
The flowers of June comprise all the most beautiful of the floral world. There are, however, some plants which are common and even beautiful, but yet are comparatively little known; and the most remarkable of these are the different kinds of parasites, such as the dodder, the mistletoe, the bird's-nest, and several others. Of these parasites, the mistletoe is, perhaps, the most common. It grows on various kinds of trees, particularly on the hawthorn and the apple; and, though but very rarely, on the oak. It is said that when the Druids consecrated a grove of oaktrees, they always planted an apple orchard near it, in order that there might be a chance of the mistletoe spreading from the apple-trees to the oaks. When the Druids found the mistletoe growing on the oak, chance of the mistletoe spreading from the apple-trees to the oaks. When the Druids found the mistletoe growing on the oak, they went in solemn procession to cut it, which was always done with a golden knife, and the mistletoe was received in a piece of white linen, that had never been used for any other purpose. The Saxons, also, revered the mistletoe; and the following curious legend is related in the "Edda" respecting it. Balder (the Saxon Apollo)



Occasionally fields of clover are covered all over with a curious twining plant, which binds the stems together, and withers the leaves. The plant itself is pretty, from its pink stems, which twine together like a number of threads, and its elegant little flowers, which are also pinkish; but it is a most destructive weed, and destroys everything it takes hold of. It grows at first from the ground, but as soon as it has twisted itself round any unfortunate plant, it detaches its root from the earth, and draws all its nourishment from the plant it has taken hold of, and which it soon destroys. The yellow bird's-nest (Mondtropa Hypópithys) only vegetates on the roots of beech and fir-trees, and seems very seldom to perfect its seeds, which may account for the comparative scarcity of the plant. It has no leaves, but their place is supplied by brownish scales. The flowers are of a dingy yellow, at first all drooping on one side, but becoming recet in maturity. When dry the flowers smell like those of the common primrose; and they appear in June and July.

In June insects are most abundant of every kind and description, as some are just bursting into the perfect state, while others are caterpillars or pupæ. It is, indeed, almost impossible to enumerate them.

Though numberless these insect tribes of air,
Though numberless each tribe and species fair,
All have their organs, arts, and arms, and tools,
And functions exercised by various rules.
Their peaceful hours the loom and distat know
But war, the force and fury of the foe,
The spear, the falchion, and the martial mail,
And artful stratagem, where strength may fail. -HENRY BROOKE





VELLOW BIRD'S-NEST.



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	1	W	ANNIVERSARIES, OC-			JN.		-	MOC Sout		1	DURATION		OONLIGHT.	HIGH WATER
			CURRENCES, FES.	RISES.	A Ston	ght zon	C	RISES.		14 3	SETS.	Before Sunrise.	- Se n' -	After Sunset.	AT LONDON BRIDGE.
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-	-			н. м	м.	s. Deg.	н. м.	н. м.	н. м.	Deg.	н. м.				н. м. н. м.
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1.	3	W	Dog Days begin	3 50	1	$661\frac{1}{9}$	8 17	0 10	6 26		Afternoon		23		7 40 8 5 184
	4	TH	Trans. St. Martin	3 5	Control of	$761\frac{1}{9}$	8 16	0 35	7 13	451	2 5		24		8 40 9 15 185
	5	F	Camb. Term ends	3 59		8 611	8 16	1 0	8 3	1 2	3 20		25		9 45 10 15 186
		2000	Ox. Term ends	3 53		861	8 15	1 30	8 56	1 4	4 35		26		10 50 11 20 187
			6тн S. aft. TRIN.	3 54		861	8 15	2 7	9 53	-	5 49		27		11 50 No Tide. 188
1 8	- 1-	-	Fire Insur. due	3 5		861	8 14	2 54	10 54	581	7 0		28		0 20 0 50 189
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10	3.		Alpha Herculis souths 9h	3 5		6 603	8 13	5 0	Afternoon	1 2	8 52		Ĭ,		2 6 2 30 191
Î	1	Гн	Old St. Peter	3 58		$560\frac{3}{4}$	8 13	6 15	2 1	541	9 39		2		3 0 3 25 192
1	2		Alpha Ophiuchi souths 10h	3 59		3 60 1	8 12	7 35	2 59	3	10 7				3 50 4 10 193
1:			6m P.M. Alpha Lyræ souths 11h 6m	4		$160\frac{1}{4}$	8 11	8 56	3 53	46	10 36		4		4 35 5 0 194
1		-	7TH S. aft. TRIN.	4		8 60 1	8 10	10 13	4 44	411	11 2		5		5 25 5 50 195
1			St. Swithin	4	the second second	4 60	8 9	11 28	5 33	361	11 26		5		6 15 6 40 196
1			Beta Lyræ souths 11h 7m	4		0 60	8 8	Afternoon	0	313	11 52		7		7 5 7 30 197
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2			Magdalene	14 10		$5 58\frac{3}{4}$	8 2	6 51	11 7	181	2 34		13		0 45 1 10 203
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24			Alpha Herculis souths 9h 0m	4 12		9 58 1	7 58	8 10	Morning.	-	4 19	7110	0		2 15 2 30 205
2		TH.	St. James	4 14	1 0	$0.58\frac{1}{4}$	7 56	8 42	0 41	211	5 17		16		2 50 3 10 206
2			St. Anne	4 18	-	0 58	7 54	9 9	1 27	233	6 19		17		3 25 3 40 207
2		_	Alpha Ophiuchi souths 9h	4 12		0 573	7 53	9 32	2 12	27	7 24		18		3 55 4 15 208
2	300		9TH S. aft. TRIN.	4 19	-	0 57	7 51	9 54	2 56	303	8 29		19		4 30 4 45 209
2			Length of night Sh 31m	4 2		8 57 1	7 50	10 16	3 39	343	9 34		20		5 5 5 20 210
3	1	CONT.		4 23		6 57	7 49	10 39	4 23	381	10 41		21		5 40 5 55 211
3	1		Day dec. 1h. 12m.			$456\frac{3}{4}$	7 47	11 2	5 8	-	11 49		22		6 15 6 40 212
1						-		THE REST			MA INCHES				

JULY.

THE Sun is situated N. of the Equator, and is moving south. On the 23d day, at 6h. 53m. A.M., he passes from the sign Cancer to Leo (the Lion), having been in the former sign 3l days, 10 hours, and 53 minutes. He rises on the 19th at N.E. by N., and sets at N.W. by N. On the 3rd day, his distance from the earth is 96,592,000 miles, being the greatest in the year.

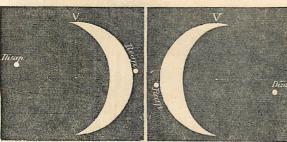
The Moon passes into Cetus near midnight on the 1st, and moves near the boundaries of this constellation, and those of Pisces and Aries, till the 5th. After noon on this day she enters Taurus, crosses the Milky Way on the 8th, and enters Gemini; she passes into Cancer on the 10th, Leo on the 11th, Virgo on the 13th, Libra on the 17th, Ophiuchus on the 19th, Sagittarius on the 21st, Capricornus on the 24th, Aquarius on the 26th, Pisces on the 27th, and Cetus on the 29th. on the 29th.

She is above the horizon when the Sun is below, during the morning hours for a few days at the beginning, and for several days at the end of the month, and during the evening hours from the 11th to the 25th.

She is on the Equator on the 2nd, at her extreme north position on the 9th, on the Equator again on the 15th, at her extreme south position on the 22nd, and a third time on the Equator on the 30th.

She is near Satura on the 3rd; Uranus, on the 4th; Mercury, on the 8th; Venus, on the 11th; Mars, on the 12th; Jupiter, on the 13th; Saturn, on the 30th; and Uranus, on the 31st.

OCCULTATION OF MARS BY THE MOON, JULY 12, 1850, AS SEEN THROUGH A TELESCOPE WHICH

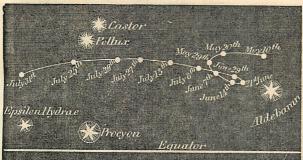


The disappearance will take place at the unillumined limb of the Moon, and the reappearance at the illumined limb, the former at 5h. 28m. r.m., and the latter at 6h. 33m. r.m.: at these times the Sun is above the horizon, and, there-

fore, these phenomena cannot be seen without the assistance of a telescope.

MERCURY is in the constellation Taurus till the 9th, in Gemini from the 10th to the 24th, and in Cancer after the 25th.

PATH OF MERCURY FROM MAY 10 TO JULY 31, 1850.



55677

30 57

33 14

9 16 9 39 10 2

6 11 16

21

27 41 P.M.

10

24

A.M.

A.M.

NEW MOON. 9
FIRST QUARTER 16
FULL MOON 24
PERIGEE . 10

APOGEE

He is a morning star, and rises on the 1st at 2h. 45m.; on the 10th, at 2h. 35m: on the 20th, at 3h. 2m.; and on the last day, at 4h. 14m. His times of rising precede those of sunrise by 1h. 4m. on the 1st; by 1h. 22m. on the 10th, 11th, and 12th; by 1h. 21m. on the 13th; by 1h. 5m. on the 20th; and by 10m. on the last day. He rises throughout the month a little north of the N.E. by N. point of the horizon. He moves eastward among the stars during the month, is at his greatest west elongation on the 4th, is near the Moon on the 8th, and is in superior conjunction with the Sun on the last day. His motion among the stars is shown in the preceding diagram, and his telescopic appearance this month is shown in December.

Venus is in the constellation Cancer till the 4th, and in that of Leo from the 5th.

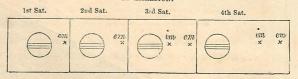
She is an evening star; and sets on the 1st, at 10h. 4m. p.m.; on the 15th, at 9h. 43m. p.m.; and on the last day, at 9h. 12m. p.m.; on the 16th at the W.N.W., and on the 31st at the W. by N. points of the horizon. She is moving eastward among the stars; is near the Moon on the 11th, Regulus on the 16th, and Mars on the 31st. For her path among the stars see the diagram in next month.

Mars is in the constellation Leo throughout the month.

He is an evening star; and sets on the 1st at 10h. 37m. p.m.; on the 15th, at 9h. 56m. p.m.; and on the last day at 9h. 9m. p.m. He is moving eastward among the stars; is near Regulus on the 1st, the Moon on the 12th, and Venus on the 1ast day. His altitude above the horizon, when he souths on the 1st, is 52°, and on the last day is 45°. For his path among the stars see the diagram in next month.

JUPTIPER is the constellation Leo till the 29th, on which day he passes into Virgo. He sets on the 1st, at 11h. 15m. p.m.; and on the last day, at 9h. 26m. p.m., at the W. by N. point of the horizon. His altitude at the time of southing on the 1st is 44°2; and on the last day is 42°3. He moves slowly eastward among the stars, and is near the Moon on the 13th. For his path among the stars during this month see the diagram in May.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION OR EMERSION.



SATURN is in the constellation Pisces throughout the month. He rises E. by SATURN is in the constellation Pisces throughout the month. He rises E. by N. on the 1st, at 9 minutes after midnight; on the 15th, at 11h. 11m. P.M.; and on the 1sst day at 10h. 10m. P.M. After these times he is visible throughout the night. He souths at an altitude of 44th nearly. He is stationary among the stars from the middle of the month, and is near the Moon on the 3rd, and again on the 30th. (See the diagram in September).

URANUS is in the constellation Aries throughout the month. He rises on the 1st, at 0h. 15m. AM.; and on the last day, at 10h. 15m. P.M. He is near the Moon on the 4th, and again on the 31st.

NEPTUNE rises on the 1st, at 10h. 47m. P.M.; on the 15th, at 9h. 54m. P.M.; and on the last day, at 8h. 48m. P.M.

and on the last day, at 8h. 48m. P.M.

ON THE APPARENT MOTIONS OF THE SUN, MOON, AND PLANETS. (Continued from page 17.)

to fall daily behind the stars. If we observe the altitude of a group of stars above to fall daily behind the stars. If we observe the altitude of a group of stars above the eastern horizon at sunset, we shall find, on examining the position of the same stars a few days afterwards, that its elevation is increased, and that it has approached towards the meridian. After an interval of three months, the same group of stars would be on the meridian at the time of sunset; and, after this time, it will continue to advance nearer to the Sun, till it is lost in his splendour. After being invisible for some time, it will become visible in the morning, and situated westward of the Sun; and day by day this distance will increase, till, at the end of the year from the time of the first observation, their relative positions will be the same as on the first examination.

The path of the Sun will be seen, by referring to our monthly account, to be continuous in one direction, and oblique among the stars. About the 21st of March, the Sun is situated on the Equator; and, after this time, his north declination and his altitude above the horizon when southing, increase day by day (see the Calendar pages), till about June 22, when he reaches his greatest north.

			Scale,	24 degrees	to one inch								Continue		age 33.)	coachos	, ma great	ost north
s of onth.	TI			NETS SOU		or		JUPIT	ER'S SA	TELLITE	es.		OCCULT	ATION	S OF STAR	S BY T	тне моог	N.
Days of the Month.	Mercury. Morning.	Venus.	Mars.	Jupiter. Afternoon	Saturn. Morning.	Neptune.		1st Sat Emersion	Eclipse	s of 2nd Emers			es of the Stars.	Magni. tude.	Times of dis- ance & re- ance of th	appear- appear- e Star.	At which	Between what Latitudes visible.
1 6 11 16	н. м. 10 34 10 33 10 41 10 57	н. м. 2 15 2 19 2 23 2 26	н. м. 3 22 3 14 3 6 2 58	н. м. 4 36 4 19 4 2 3 46	H. M. 6 42 6 23 6 4 5 46	H. M. 4 0 3 40 3 20 3 0	2 1	н. м. 0 19 1 8 37 1	P.M. P.M.		м. 10 р.м.	Mars			В. н. м. { 12 5 28 { 12 6 33 15 11 15	P.M. P.M. P.M.	Bright	8° N. & 90° N.
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	Tanca a												gittarii pricorni	6	21 11 13		Bright	69° N. 36° N. & 72° N.
TIMI	ES OF CH	ANGES of	THE MO	ON, 9			RIG	HT AS	CENSIO	NS AND	DECLIN	ATION	S OF TH	E PL	ANETS.			
And	when she i	s at her gre	eatest dista	ince 55	MER	CURY.	VEN	JS.	MA	RS.	JUPI	TER.	SATU	RN.	URAN	us.	NEPT	TUNE.
	ogee), or at , from the I			1 62	Right Ascension	Declination North.	Right Ascension	Declination North.	Right Ascensio	Declination North.	Right Ascension	Declination North.	Right Ascension	Decli natio North	n A scension	Decli- nation North.	Right Ascension	Declination South.
LA	ST QUARTI	ER 2D. 5	н. 58м г	.м. 1	5h.10m	19° 28′	8h.51m	19°28′	9h.59m	13°31′	11h.14m	6° 18′	1h.18m	5° 3	7' 1h. 52m	10° 55	22h. 36n	9°42′

22

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NOTES ON NATURAL HISTORY.—JULY.

Now comes July, and with his fervid noon Unsinews labour. The tired mower sleeps; The weary maid rakes feebly; the warm swain Pitches his load reluctant; the faint steer, Lashing his sides, draws sulkily along The slow encumber'd wain in midday heat.

The slow encumber'd wain in midday heat.

In July the heat of the weather has generally become so oppressive that all nature appears languid; the very birds are nearly all silent, and only the robin and the wren, with some very few exceptions, continue to sing at all after the first fortingth in July. The birds that are heard at this season generally, indeed, sound strange and unnatural. The chiff-chaff, which at other times only repeats the shrill and monotonous two notes which have gained it its name, was heat by Mr. Jenyns, in July, to utter a singular kind of whistle, which it repeated several times in succession. Nearly all the young birds are hatched at this season; but Mr. Jenyns informs us he has found the nest of the tree-pipit (or, more probably, the meadow-pipit) on the grass as late as the middle of July. The tree-pipit, or titlark, is a kind of lark, the male bird of which has a very agreeable song; though, as Mr. Yarrell observes, "it is perhaps more attractive from the manner in which it is given than the quality of the song itself. He generally sings while perched on the top of a bush, or one of the upper branches of an elm tree standing in a hedge-row, from which, if watched for a short time, he will be seen to ascend on quivering wing about as high again as the tree, then, stretching out his wings and expanding his tail, he descends slowly by a half-circle, singing the whole time, to the same branch from which he started, or to the top of the nearest other tree; and so constant is this habit with him, that, if the observer does not approach too near so as to alarm him, the bird may be seen to perform this same evolution twenty times in half an hour." The titlarks walk on the ground, like the wagialis and the larks. The meadow-pipit is smaller than the other species; and, instead of singing on a tree, it places itself or a little hillock or a large stone, and moves its tail up and down like a wagiali. This bird always builds in the grass, and lays a little dried grass over its nest to conceal i In July the heat of the weather has generally become so oppressive that all

and examining sea-weed, apparently in search of summer crustacea.

July is the month for gathering the leaves of the woad (Isàtis tinctòria). It is cultivated, as its leaves are applied in dyeing thread, in some parts of England; but that which is used for dyeing cloth is brought principally from the Canary Islands and Spain and Sicily. It was formerly grown in great abundance in the south of Somersetshire; and it is said that the name of Glastonbury is derived from the Celtic word glas, blue. The ancient Britons are reported to have from the Celtic word glas, blue. The ancient Britions are reported to have painted their bodies with the blue obtained from this plant, and hence they received their name, as Britho as the Celtic word for to paint. The plant is a biennial, and the seeds that are sown in the July of one year readure leaves in the July of the following the seeds that that are sown in the July of one year produce leaves in the July of the fol-lowing year in a fit state for using. When the leaves are gathered, they are steeped in water till all the fleshy are steeped in water till all the fleshy matter is separated from the fibrous part; the pulp is then suffered to terment, and the water being partly strained and partly evaporated from it, the substance, when dry, is cut into pieces about an inch square, and packed in casks or sacks for sale. It is principally used for dyeing woollen substances not only blue, but black; at all the black cloth that is made is dyed blue before it is dyed black. as all the black cloth that is made is dyed blue before it is dyed black, to prevent it from turning brown. The woad, though used in dyeing blue, has yellow flowers, which are rather ornamental. It is now comparatively very little cultivated, as it requires a very rich soil to bring the leaves to perfection; and, unless they are fleshy and succulent, they produce very little colouring matter. On this account its cultivation is so On this account its cultivation is so expensive, that indigo, which is pro-duced from the leaves of the *Indi*goiera (a leguminous plant growing in the East Indies), can be obtained more cheaply, and it is, therefore, generally preferred.

Cruciferous plants, such as the wild

generally preferred.

Cruciferous plants, such as the wild cabbage, the wild turnip, and the wild mustard, are generally in flower in this month; and, as their flowers are usually yellow, they give a peculiarly gay and cheerful appearance to the All the cruciferous plants are edible, and though some of them are very pungent, they are far from disagreeable to the taste, and are generally considered very wholesome. They are all known by their flowers consisting of four petals, disposed in the form of a Greek cross. The umbelliferous plants, on the other hand, which are known by their flowers forming large heads, like the parsley and the meadow-sweet, are nearly always poisonous when in a wild state; though they are rendered edible, and even wholesome, by cultivation. The celery and the carrot are striking examples of this. The celery is poisonous in a wild state; and its stalks are tough and leathery. The wild carrot has a root so slender that it was at first thought it was scarcely possible to be the same plant as that cultivated in gardens. M. Vilmorin, however, of Paris, contrived, by cultivating the wild plant and raising several generations from its seeds, to obtain carrots fit for the table. In this way, no doubt, many of our popular vegetables have been introduced, of which the origin now is totally unknown. As a proof of the wonders which may be effected by cultivation, it may be mentioned that all the kinds of cabbage, greens, broccoil, and cauliflower

have been raised from the same stock, and that they are only sub-varieties of the same species.

At this season of the year, rose-trees have very often curious excrescences on the branches, which look like a tufted lichen, and to which the old naturalists gave the name of bedeguar. These excrescences consists of proposed to the proposed of the propo

sist of numerous reddish, moss-like fibres, quite dissimilar from the leaves of the plant, and each excrescence is the sometimes size of a hen's egg.
When cut open,
it will be found
that the centre of LARVA AND PERFECT INSECT OF THE EGLANTINE GALL.

Under the centre of this hairy mass consists of from ten to a dozen cells all growing tentre of the cells all growing containing each containing the containing tentre of this hairy mass consists of from tentre of the containing tentre of the c



INTERIOR OF THE GALL ON THE

TINE GALL. containing the EGLANTINE.

maggot of a kind of gnat (Cymips). This gnat, or gall-insect, pierces the bark of the rose-tree with its ovipositor, and lays its eggs just within the bark, or, rather, in the soft parts of the plant; and these having their juices interrupted, bulge out into a kind of tumour; while the bark, separating into its woody fibres, forms a kind of fringe, which covers the tumour. The perfect insect is a most fearful-looking gnat. Gnats are at this season very abundant. The month of July is generally remarkably moist, and as it is also warm, it is very favourable to the increase of these creatures, who have been always observed to

most fearful-looking gnat. Gnats are at this season very abundant. The month of July is generally remarkably moist, and as it is also warm, the very favourable to the increase of these creatures, who have been always observed to bite most in the warm moist weather.

There is a species of gnat common in Hungary (Simulia columbaczénsis), which, though so minute as to be scarcely perceptible without a powerful microscope, is yet so extremely destructive that it will kill a large horse or cow in a few hours. In some years these gnats fill the atmosphere so completely, that, as Kollar tells us, "it is impossible to breathe without swallowing a great number of them. Not unfrequently they appear in so dense a multitude as to be taken at a distance for a cloud, and in this form they are most to be feared. On the appearance of these clouds the herds instinctively leave their pastures, and fly to the villages to take refuge fin their stables from these bloodthirsty insects. Horses, oxen, and swine generally suffer the most from them. When these files attack any of the above-named animals, they select the tender soft parts, free from hair. Hence, they attach themselves mostly to the corners of the eyes, the mouth, the nostrils, and even creep into the ears and the inner nostrils, the throat and windpipe, &c., where they are sometimes found in animals killed by them, in thick layers. Men are no less exposed to the attacks of these sourges than domestic animals; but they can more readily drive them off, and by covering the face secure themselves from the most dangerous consequences. Solitary examples also are not wanting where little children have been killed by them, when the mother, to pursue her work, has left her babe lying in the grass, or suspended in its swing to the branch of a tree, and staid away too long. Every bite given by this insect to men or cattle causes a burning itching, and a very painul, hard, rapid swelling, which scarcely goes off in eight or ten days. Many of them, particularly when they are near tog

hawthorn and the blackberry.

The bloody-nose beetle (Ohrysomèla tenebricòsa) is so named from its having always, when alarmed, a clear drop or two of red fluid hanging from its mouth. This fluid it ejects, when taken, upon the hands of its capturers; and as, from the sharp pain it occasions, it frequently makes the holder start, the insect falls to the ground, and, of course, loses no time in making its escape. Other species of the same genus eject a white fluid, which is somewhat glutinous, and which enables them to adhere, when nec ssary, to the branches or leaves of trees. These beetles, indeed, and the ground beetles, to which they are very nearly allied, are remarkably expert climbers, and they will not only run up trees and along the branches of trailing plants, but they will occasionally walk with their backs downwards, adhering so firmly that it requires a tolerably strong pull to disengage them. Sometimes, the effect of a warm sunny day in February is astonishing upon the beetles which are hybernated, and they come out of their holes in such numbers, as to make one wonder where they can possibly have been hidden.



1-	1			CITA	SVIII-D			000					
1.	-	ANNIVERSARIES, OC-	-	SUI Sout		1	-	MOON. Souths.		DURATION	OF M	OONLIGHT.	HIGH WATER
M	W	CURRENCES, FES-			4		RISES.	-	Control of the State of the Sta	Before Sunrise.	1 0 1	After Sunset.	AT LONDON BRIDGE
D	D	TIVALS, &c.	Rises.	After 12 o'Clock.	eight bove rizon	SETS.	Afternoon	Morning.	SETS. Afternoon		on's		AT LONDON BRIDGE.
1-	-			Barre V	H a H		Sh. by	He	ab hor	1h. 2h. 3h.	Moon' Age.	O'Clock. 9h. 10h. 11h.	Morning. Afternoon
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3	10000			5 57	564	7 44	Morning.		$1\frac{3}{4}$ 2 14		24		7 55 8 20 214
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4	-	10THS.aft. TRIN.		5 48	553	7 41	0 43	8 36 5	75 4 37		26		10 10 10 45 216
0	M			5 43	$ 55\frac{1}{2} $	7 40	1 36	9 37 5	8 5 43		27		11 95 At Mid- 917
6		Pr. Alfred b. Trs-	4 33	5 37	$55\frac{1}{4}$	7 38	2 35	10 39 5	8 6 38		28		No Tide. 0 35 218
7	W	Name of Jesus	4 35	5 30	55	7 36	3 46	11 41 5	6 7 23		0		1 2 1 30 219
8	TH	Day breaks 1h 36m	4 36	5 23	543	7 34	5 6	Afternoon 5			ī		1 55 2 20 220
9	F	[Q. Day	4 38	5 15	541	7 32	6 28		8 8 35		⊘ 2		
10	S	St. Lawrence. Hf	4 40	5 7	54	7 31	7 49	2 33 4	4		4		2 45 3 10 221
111	S	11TH S.aft. TRIN	4 41	4 58	533	7 29	0 7		2		3		3 35 3 55 222
12		Lam. Day	4 42	4 49	531	7 27	10 24		$8\frac{3}{4}$ 9 28		4°		4 20 4 45 223
13		Qu. Adel. b. Old	4 44	4 39	531	7 25	11 38	4 15 3	$3\frac{3}{4}$ 9 54		5.		5 5 5 25 224
14	W	Alpha Lyræ souths 8h 59m	4 45	4 28	53		The second	5 32	94 10 19		6		5 50 6 10 225
15	Ter	As. of B. V. Marv		4 17		7 23	Afternoon	5 51 2	2				6 30 6 55 226
16		Beta Lyrae souths 9h 5m	4 46		$52\frac{1}{2}$	7 21	1 55	6 39 2	-4		8.,		7 20 7 45 227
17	-	P.M.	4 47	4 5	024	7 19	2 57	7 27 2	0 22 00		9		8 15 8 50 228
18	12323	And the second s	4 49	3 53	52	7 17	3 55	8 15 1	4		10%		9 30 10 5 229
19	S	12TH S. aft. TRIN	4 51	3 40	215	7 15	4 48	9 4 1	$8\frac{1}{2} \ 0 \ 33$		11		10 40 11 20 230
19	IVI	47m P.M.	4 52	3 27	514	7 13	5 32	9 51 1	9 1 20		12		11 55 No Tide. 231
20	IU	F.M.	4 53	3 13	51	7 11	6 12	10 39 2	0 2 12		13		0 25 0 50 232
21	W	Black-cock sh. b.	4 55	2 59	$50\frac{3}{4}$	7 9	6 45	11 25 2	$2^{\frac{3}{4}}$ 3 11	The state of the s	$\overline{14}$		1 15 1 35 233
22	100000000000000000000000000000000000000		4 57	2 44	$50\frac{1}{4}$	7 7	7 12	Morning	4 12				1 55 2 10 234
23	F	L.M.	4 59	2 29	50	7 5	7 37	0 10 2	6 5 15		16		2 30 2 45 235
24	S	St. Bartholomew	5 1	2 13	493	7 3	8 0	0 54 2	91 6 20		17		0 7 00 000
25	S	13TH S. aft. TRIN	5 2	1 57	491	7 1	8 23		$3\frac{1}{2}$ 7 26		17 18		3 * 5 3 20 236
26	M		5 3	1 40	49	6 59	8 44		8 8 33		19		And the second s
27	Tu	Beta Aquarii souths 11h 0m	5 5	1 24	481	6 57	9 6		21 9 40				
28	W	n	5 7	1 6	481	6 55	9 33		$6\frac{3}{10}$ 10 50		20		4 35 4 55 239
29		N. T 7 TO 7 7	5 8	0 49	48	6 53	10 2	4 40 5	4 200		21		5 10 5 30 240
30	F	Alpha Aquarii souths J1h	5 10	0 31	471	6 51	10 38		, +		22		5 45 6 5 241
31	S	WOLL TIME	5 12	0 13	1 = 1	0 10		5 31 5	I Jarretmoon				6 25 6 50 242
		34 OM	0 12	0 101	1/4	6 49	11 22	6 25 5	$6\frac{3}{4}$ 2 21		200		7 15 7 45 243

AUGUST.

AUGUST.

The Sun is situated north of the Equator, and is moving south. On the 23rd day, at 1h. 22m. p.m., he passes from the sign Leo to Virgo (the Virgin), having been in the former sign 31 days, 6 hours, and 49 minutes. He rises and sets on the 15th, at the E.N.E and W.N.W. points of the horizon respectively. On the 1st day his distance from the Earth is 96,392,000 miles.

On August 7th there will be an eclipse of the Sun, but which will be invisible in Europe. It will be visible for the most part at places situated between 20° south latitude, and 40° north latitude, and between 130° and 300° east longitude. These portions of the Earth are principally occupied by the North Pacific Ocean, and the eclipse will be total at some parts of the ocean. It begins on the 7th at 7th p.m. nearly, Greenwich time, at a place whose latitude is 11½° N., and whose longitude is 164° E.; and the eclipse ends on August 7th near midnight, Greenwich time, in latitude 10° S., and longitude 300° E.

The Moon, on the 1st, near midnight, enters Taurus. She crosses the Milky Way on the 4th; enters Gemini on the 5th; Cancer on the 6th; Leo on the 8th; Virgo on the 10th; Libra on the 13th; Ophicuchus on the 15th; Sagittarius on the 17th; Capricornus on the 20th; Aquarins on the 22nd; Pisces on the 24th; Cetus on the 25th; and, till the 29th, she is alternately in Pisces, Cetus, and Aries; and enters Taurus on the 29th.

She is above the horizon when the Sun is below, during the morning hours, for a few days at the beginning of the month, and from the 14th to the 31st; and during the evening hours, from the 11th; at her extreme south position on the 18th; and again on the Equator on the 11th; at her extreme south position on the 18th; and again on the Equator on the 11th; at her extreme south position on the 18th; and again on the Equator on the 11th; at her extreme south position on the 18th; and again on the Equator on the 11th; at her extreme south position on the 18th; and again on the Equator on the 11th; at her extreme south positi

11th; at her extreme south position on the 18th; and again on the Equator on the 26th, going north.

She is near Mercury on the 8th; Mars, Jupiter, and Venus on the 10th; Saturn on the 26th; and Uranus on the 27th.

MERCURY is in the constellation Cancer till August 3rd; in that of Leo from

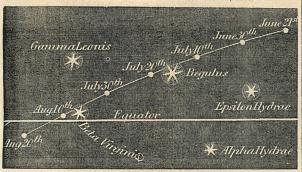
Mercury is in the constellation Cancer till August 3rd; in that of Leo from the 4th to the 23rd; and in Virgo from the 24th.

He is an evening star; and sets on the 1st, at 8h. lm.; on the 15th, at 7h. 57m.; and on the last day, at 7h. 24m.: these times are 15, 36, and 35 minutes, respectively, after the Sun sets. Mercury sets on the 19th at the W. by N., and on the 29th at the W. point of the horizon. He moves eastward among the stars throughout the month; is near the Moon on the 8th, and Jupiter on the 28th. For his path in the heavens, see the diagram in September, showing a continuation of his motion from that exhibited in the diagram in June.

Venus is in the constellation Leo till the 3rd, and in that of Virgo from the 4th.

She is an evening star; and sets on the 1st, at 9h. 10m. p.m.; on the 15th, at 8h. 36m. p.m.; and on the last day, at 7h. 57m. p.m.; on the 13th at the W., and on the 27th at the W. by S. point of the horizon. She is moving eastward among the stars. She is near Jupiter on the 6th; Beta Virginis on the 8th; and Spica Virginis on the 31st. Her path in the heavens is shewn in the annexed diagram, and her telescopic appearance is shewn in December.

PATH OF VENUS FROM JUNE 21 TO AUGUST 20, 1850.

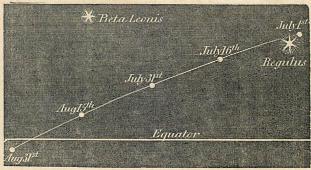


Scale, 24 degrees to one inch

Mars is in the constellation Leo till the 9th, on which day he passes into

He is an evening star; and sets, on the 1st., at 9h. 6m. P.M.; on the 15th, at 8h. 26m. P.M.; and, on the last day, at 7h. 37m. P.M. He is moving eastward among the stars; is near the Moon on the 10th, Jupiter on the 14th, and Beta Virginis on the 15th. His altitude above the horizon when he souths on the 1st is 44° 4, decreasing to 37° on the last day.

PATH OF MARS FROM JULY 1 TO AUGUST 31, 1850.



Scale, 12 degrees to one inch.

JUPITER is in the constellation Virgo throughout the month. He sets, on the 1st, at 9h. 22m. r.m.; and, on the last day, at 7h. 35m. r.m.; near the W. by N. point of the horizon at the beginning of the month, and W. at the end. His altitude in southing is $42^{\circ \frac{5}{3}}$ on the 1st, and is $40^{\circ \frac{1}{9}}$ on the last day. He moves slowly eastward among the stars; is near Venus on the 6th, the Moon on the 10th, Mars on the 14th, and Beta Virginis on the 17th. His path in the heavens is shewn in the diagram in May.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION



SATURN is in the constellation Pisces throughout the month.

SATURN is in the constellation Pisces throughout the month.

He is visible during the greater part of the night; and rises near the E. by N.; on the 1st, at 10h. 6m. P.M.; on the 15th, at 9h. 10m. P.M.; and, on the last day, at 8h. 8m. P.M. He souths at an altitude of 44° nearly; is almost stationary among the stars throughout the month; and is near the Moon on the 26th. See the diagram in next month shewing his motion in the heavens.

URANUS is in the constellation Aries throughout the month.

He rises, on the 1st, at 10h. 11m. P.M.; and on the 31st at 8h. 13m. P.M., midway between the E. by N. and E.N.E. points of the horizon. He souths, on the 15th, at 4h. 2m. A.M., at an altitude of 49°½. He is almost stationary among the stars, and is near the Moon on the 27th.

NEPTUNE rises, on the 1st, at 8h. 44m. P.M.; on the 15th, at 7h. 48m. P.M.; and, on the 31st, at 6h. 45m. P.M., midway between the E. by S. and the E.S.E. points of the horizon.

ON THE APPARENT MOTIONS OF THE SUN, MOON, AND PLANETS.

(Continued from page 29.)

declination and his greatest meridian altitude. From this time, the north declination gradually decreases till about the 24th of September, when he is again on the Equator: he continues to move in the same direction till about the 22nd of December, when his greatest south declination is attained; after which his south declination gradually decreases till about the 21st of March. At the times of the vernal equinox on the 21st of March, and the autumnal equinox about the 24th of

(Continued	on	page	37.)	
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TIMES OF THE PLANETS SOUTHING, OR PASSING THE MERIDIAN.									JUPITER'S SATELLITES. 0						OCCULTATIONS OF STARS BY THE MOON.							
Days of the Month.	Mercury.	Venus.	Mars.	Jupiter.		N eptune.							es of the	Magni- tude.	ance d	f disay	pear- li	At which mb of the Moon.	what Latitudes visible.			
1 6 11 16 21 26 31	H. M. 0 12 0 33 0 50 1 4 1 14 1 22 1 27	H. M. 2 34 2 35 2 36 2 37 2 38 2 39 2 40	H. M. 2 31 2 23 2 15 2 7 1 59 1 51 1 43	н. м. 2 53 2 36 2 20 2 4 1 48 1 32 1 16	H. M. 4 44 4 4 4 4 4 4 4 4 4 4 4 3 44 3 24 3 4 2 43	H. M. 1 57 1 37 1 17 0 57 0 37 0 17 Aftern.	Aren		ole, Jupite r to the S		g too	Aldeb	a Libræ agittarii	3 1 4 6 6	3 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	M. 39 A 1 25 A 3 34 A 4 A 3 30 F 9 41 F 6 44 F 8 36 F 9 19 F	MMMMMMMM	Dark Bright Dark Dark Bright	6° N. & 90° N. & 8° N. & 81° N. & 76° N. & 69° N. & 69° N. & 72° N.			
TIM	ES OF CH	ANGES	F THE MO	ON, E					ASCENS		ECLINATIONS OF THE PLANETS.											
	when she			ince of	MER	CURY.	VEN	VENUS. MARS. JUP				TER.	SATU	RN.				NEPTUNE.				
(Anogee) or at her least distance (Peri-					Right Ascension	Declination North.	Right Ascension	Decli- nation North.	Right Ascension	Declination North.	Right Ascension	Decl natio Nort	on And	ight ension	Declination North.	Right Ascension	Decli- nation South.					
NE FI FI L	ST QUART W MOON . RST QUAR ULL MOON AST QUAR EBIGEE .	. 7 9 r. 14 5 22 9	34 H 46 H 12 H 18 H	1.M. 6 2.M. 6 2.M. 11 2.M. 16 2.M. 21 2.M. 21 2.M. 26 2.M. 26	8h. 51r 9 32 10 9 10 42 11 12 11 39	16 29 13 4 9 26 5 45	11 55	3 42 1 9 South. 3 59	11 57	6° 14′ 4 58 3 41 2 23 1 4 South.	11h. 32m 11 35 11 39 11 41 11 46 11 50	4° 17' 3 54 3 31 3 7 2 43 2 18	1h. 2Im 1 21 1 21 1 21 1 21 1 20 1 20	5 5 5 5	49' 1h 48 1 45 1 42 1 37 1 32 1	.54m 54 54 54 54 53 53	11°5′ 11 5 11 5 11 4 11 3 11 1	22h. 34n 22 34 22 33 22 33 22 32 22 31	9° 55′ 9 57 9 59 10 3 10 6 10 9			

AUGUST, -OYSTER DREDGING IN WHITSTABLE BAY.

NOTES ON NATURAL HISTORY.—AUGUST.

NOTES ON NATURAL HISTORY.—AUGUST.

In August very few birds are heard to sing. Even the robin and the wren are generally quiet from the middle of July till the middle of August, though the robin generally begins again to sing towards the end of the latter month. Occasionally a number of young birds, such as linnets, greeufinches, buntings, and other small birds, are seen flying together in large flocks like a swarm of bees, and seeming as though they were driven off by the old birds, though they are much too numerous to be the inhabitants of one nest; and when they fly, it is in a determined manner, "wending their way steadly in a direct line, as if under the influence of some common impulse." These flittings, also, do not appear to have anything to do with ordinary migrations, as they occur in species which do not migrate; and, in fact, it does not appear that there is any reason for their removal, unless it be that those particular kinds of birds have become, after the hatching of the young ones, too numerous for their original neighbourhood, from a deficiency of food, or some other cause; and hence they are driven forth to seek a new settlement.

Mr. Knapp says he has observed "a flock of finches and yellow-hammers basking in a hedge, and a hawk, after due consideration, apparently single out an individual. Upon its moving for its prey, some wary bird has given the alarm, and most of the little troop scuttle immediately into the hedge; but the hawk holds on its course, and darts upon a selected object. If baffled, it seldom succeeds upon another; and, so fixed are its eyes upon this one individual, that, as if unobservant of its own danger, it snatches up its morsel at our very sides. A pigeon on the roof of a dove-cot seems selected from its fellows—the hawk rarely snatching at more than one terror-stricken bird. The larger species of hawks appear to employ no powers excepting those of wing, but pursue and capture by celerity and strength."

It has often been observed that we are surrounded by wonders which

naws appear to employ no powers excepting those of wing, but pursue and capture by celerity and strength."

It has often been observed that we are surrounded by wonders which we do not notice, because they are of daily occurrence, but which excite the greatest surprise when they are pointed out to us. The truth of this observation is forcibly exemplified as regards fish. We see them every day exposed for sale on stalls, and we at them frequently at our tables, without once considering by what a curious and delicate organisation these creatures are enabled to see and breathe in an element that carries death to us and to quadrupeds. The sight of fishes appears to be remarkably strong, as it is by sight chiefly that they discover their prey. Hence, a fish is easily deceived by an artificial fly, or the imitation of a frog or other small aquatic or amphibious animal; which, if it were guided by the smell, or any other sense than the sight, could not happen. The mode in which fishes breathe is, however, the most curious. They have no lungs; but, instead of them, they have gills, carefully covered with a lid and a flap, both of which the fish can open or keep closed at pleasure. The gills are composed of arches, bordered by a kind of fringe, which, when examined through a micros-

when examined through a microscope, appears covered with a velvet-like membrane, "over which myriads of wonderfully minute blood-vessels are spread, like a delicate net-work. There are commonly four of these fringed arches: they are moveable, and allow the currents of water, driven down by the action of the mouth, to flow freely through them, so as to lave every fibril." It is absolutely necessary that this should be the case, since the gills lose their power of acting as soon as they become dry; and hence a fish cannot live long after it is taken out of the water. As there is danger, however, of the food taken by the fish being carried through the gills by the stream of water constantly flowing through them, the minor curve of the arch formed by the gills is studded with spines, which prevent anything but air or water passing through them.

through them.

In the vegetable world, some plants are in flower at this season that are not met with at any other, and one of the most curious of these is the flowering fern (Osmúnda regdils), a plant, the very name of which seems a contradiction, as it is well known that the contradiction as the seems a contradiction, as it is well known

FLOWERING FERN.

FLOWERING FERN.

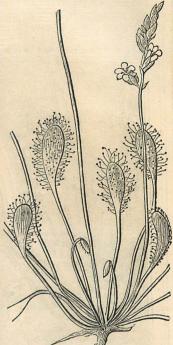
The dearly and that they bear their seeds on the back of their leaves. The flowering fern resembles the other plants belonging to the family in not having any proper flowers, but it has its seed-vessels on only some of its fronds, or, rather, on what should have been some of its fronds; as the seed-vessels grow clustered found, as in other ferns, on the back of the flowering fern, instead of being found, as in other ferns, on the back of the leaves, look as though the leaves had withered away from them. In the early part of the summer, these seed-vessels being of a pale green, are scarcely perceptible; but about autumn they take a rich brown colour and become very ornamental. These ferns are tolerably abundant, particularly in the north of England and in Scotland, where, in marshy places, they grow to a considerable size, sometimes having been known to be upwards of eleven feet high. The botanic name of the plant is said to allude to some Saxon King named Osmund, who adopted the flowering fern as his badge, in the same way as the broom, the common heath, and many other British plants, have been adopted as banners by several Highland clans. The underground or root-like stem of this plant is tonic, and is used in rustic medicine. The moon-wort, or grape fern (Botrichium Lunària), is very nearly allied to the Osmainda, as it produces maked seed-vessels; but it is much less ornamental. It takes its name of moon-wort from its leaflets being somewhat crescent-shaped. The adder's tongue (Ophioglóssum) is another fern which does not produce its seed-vessels on the back of the leaves, but in a close clustered spike, bearing considerable resemblance to a tongue. The

adder's tongue is found in moist meadows and pastures in warm situations.

The sundew, or red rot, is th The sundew, or red rot, is the name of a singular genus of pet ennial British plants, which ar found on heaths and commons where the soil is boggy. The leaves, which all spring from the roots, are covered with glandular hairs, from the extremities of which exades a transparent but glutinous liquid, resembling drops of dew. The flowers are partly giutinous liquid, resembling drops of dew. The flowers are nearly white, and rather pretty. There are three species: the commonest kind has round leaves, but the long-leaved species (*Drósera longithia*) is the most ornamental. Ants and small flies are sometimes found adhering to the leaves, or entangled in the hairs, which, it is said, fold over them, and pre-vent the possibility of their escape; but it appears more probable that the insects are held fast by the glutinous liquid exuded from the glutious liquid exided from the hairs. "All the species of Drosera are acrid, and their juice is employed to destroy warts and corns." They are said to occasion the rot in sheep, but that probably arises from the unwholesome nature of the boggy land on which

ture of the boggy land on which the plants grow.

The ants generally seen are little black creatures with long legs, large heads, and very slender bodies. But these are only the working part of the community; and many people are probably not aware that, in the month of August, and sometimes later, "the habitations of the various species of ants may be seen to



species of ants may be seen to swarm with winged insects, which are the males and females, preparing to quit for ever the scene of their nativity and education. Every thing is in motion; and the silver wings, contrasted with the jet bodies which compose the animated mass, add a degree of splendour to the interesting scene. The bustle increases, till at length the males rise, as it were by a general impulse, into the air, and the females accompany them. The whole swarm alternately rise and falls with a slow movement to the height of about ten feet, the males flying obliquely, with a rapid zigzag motion, and the females, though they follow the general movement of the column, appearing supplied in the air, like balloons, seemingly with no individual motion and

common ant. ing suspended in the air, like balloons, seemingly with no individual motion, and having their heads turned towards the wind." 'Sometimes the swarms of a whole district," continue Messrs. Kirby and Spence, "unite their infinite myriads, and, rising with incredible velocity, in distinct columns, they soar above the clouds. Each column looks like a kind of slender net-work, and has a tremulous undulating motion, which has

with incredible velocity, in distinct columns, they soar above the clouds. Each column looks like a kind of slender net-work, and has a tremulous undulating motion, which has been observed to be produced by the regular alternate rising and falling just alluded to. The noise emitted by myriads and myriads of these creatures does not exceed the hum of a single wasp. The slightest zephyr disperses them; and if, in their progress, they chance to be over your head, if you walk slowly on, they will accompany you, and regulate their motions by yours." All the male, and a great number of the female, ants become the prey of birds or fish, or are destroyed in various ways; but a few females remain, some of which become the founders of new colonies, while others return to their original nest, when it is said that they are seized forcibly by some of the working ants, who tear off their wings, and keep them prisoners till they are ready to lay their eggs. During the time that the female ants are in this state of durance, the working ants, though hanging pertinaciously to each leg, to prevent their going out, at the same time attend upon them with the greatest care, feeding them regularly, and conducting them where the temperature is suitable for them, but never quitting them for a single moment. As soon as the female begins to lay her eggs, the working ants which are in attendance on her carry them off, and deposit them in proper places for them to be hatched. Each female lays four or five thousand eggs in the course of a year, so that when a single female founds a colony, she is very soon enabled to people it. When a female has founded a colony, the working ants begin to pay a homage to her very similar to that which bees render to their queen; and, as Messrs. Kirby and Spence observe, "all press round her, offer her food, conduct her by her mandibles through the difficult or steep passages of the formicary; nay, they sometimes even carry her about their city: she is then suspended upon their jaws, the ends of which are cr a colony already formed are stripped of their wings by the workers, it is not an act of cruelty on their part, but rather a delicate attention, as they spare the queen the trouble of taking off her wings herself.



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3	Tu	Partridge and Bustard Shooting begins on the 1st.	5 16	0 44	46	6 42	1 22	9 23	2	5 16	100		27			10 20	245
4	W	Alpha Cygni souths 9h 41m P M.	5 18	1 3	153	6 40	2 37	10 23		5 57	100000		28		11 10	11 45	246
5	TH	Old. St. Bartholo.	5 20	1 23	151	6 37			4			7/1/2	40		No Tide,	0 20	247
6	F	Alpha Aquarii souths 10h	27 10 10 10 10 10 10 10 10 10 10 10 10 10	THE REAL PROPERTY.	$45\frac{1}{4}$	056 435 501	3 56	11 21	$50\frac{3}{4}$	6 31		1000 1000	49		0 50	1 20	248
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8	S	15TH S.aft. TRIN.	5 25	2 23	441	6 29	8 0	2 3	36	7 55			2		3 15	3 40	251
9	M	[Nativity of B. V. Mary	5 26	2 43	433	6 27	9 15	2 53	31	8 19			3		3 55		THE RESERVE OF THE PERSON OF T
10	Tu	Length of day 12h 58m	5 27	3 3	431	6 25	10 30	3 43		8 45				3 111			252
11	W	Length of night 11h 7m	5 29	3 24	43	6 22	11 41	4 32	021	MEN TO					4 40		253
12	-	Day breaks 3h 32m	5 31	3 45				- 02	202	9 16			5.		5 15	5 35	254
13	77	Twilight ends Sh 20m			4		Afternoon	5 21	$20\frac{3}{4}$	9 50			6		5 55	b 20	255
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14		Holy Cross	5 33	4 27	42	5 16	2 43	6 59	$18\frac{1}{4}$	11 14			8	100	7 30	8 0	257
15		16TH S.aft. TRIN.	5 35	4 48	411	6 14	3 31	7 47	181	Morning			9	- 3	8 40		258
16	M	Buck-Hunt. ends	5 36	5 9	411 (12	4 12	8 35	193	0 6			10		10 0		259
17	Tu	Lambert	5 38	5 30	403	5 10	4 47		224	1 2	70 770		11.		11 20		
18	W	Ember Week. K	5 40	5 51	401 6		5 15 1	0 7	243	2 2	-0/1/1	-	SERVICE OF			Midnight.	260
19	TH	[George I. & II. land	5 42	0	402	1	5 41 1	0 51	4				I 2		No Tide		261
20	F	Fomalhaut souths 10h 51m	5 43	CONTRACTOR OF THE PARTY OF THE	393	5 2			$27\frac{3}{4}$	3 5		1000	13		0 50	1 10 5	262
21		St. Matthew			4	2	6 5 1		$32\frac{1}{4}$	4 10		1//	14	01 12 120 121	1 30	1 45	263
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23	IVI I		5 48	7 37 3	381	56	7 11	1 4	41	7 31			7		3 5		266
24		Alpha Pegasi souths 10h 43m	5 49	7 57 3	38 5	54	7 36	1 50	451	8 42			8				267
			5 51	8 18 3	373 5	52	8 4		$49\frac{3}{4}$	9 52			9				
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27			5 55	8 59 3	74 5	17	0 -0	100		1 4			0		4 45		269
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	100000				-					11-		1866	-	MANUAL MANUAL AND	0 01	0 10 4	. 0

SEPTEMBER.

THE SUN is situated north of the Equator till the 22nd, and he crosses the Equa-The Sun is situated north of the Equator till the 22nd, and he crosses the Equator, going south, on the 23rd. He crosses from the sign Virgo to Libra on the 23rd day, at 10h. A.M., having been in the former sign 30 days, 20 hours, and 38 minutes. He rises and sets on the 5th at the E. by N. and W. by N., and on the 23rd at the E. and W. points of the horizon respectively. On the 1st day his distance from the Earth is 95,816,000 miles.

The Moon is in Gemini on the 1st; and enters Cancer on the 3rd; Leo on the 4th; Virgo on the 6th; Libra on the 10th; Ophiuchus on the 12th; Sagittarius on the 14th; Capricornus on the 16th; Aquarius on the 18th; Pisces on the 20th; Cetus on the 21st; near Pisces and Cetus on the 24th; near Aries and Cetus on the 25th. She is crossing the Milky Way on the 28th. She enters Gemini on the 28th, and Cancer on the 30th.

She is above the horizon when the Sun is below, during the morn-

the 25th. She is crossing the Milky Way on the 28th. She enters Gemini on the 28th, and Cancer on the 30th.

She is above the horizon when the Sun is below, during the morning hours of the first three days and last eleven days, and during the evening hours, from the 9th to the 24th.

She is at her extreme north position on the 1st; is on the Equator on the 8th; and her extreme south position on the 15th: she then begins to move northward; is on the Equator on the 22nd; and reaches her extreme north position a second time on the 29th.

She is near Mercury, Mars, and Jupiter on the 7th; Venus on the 9th; Saturn and Uranus on the 23rd.

MERCURY is in the constellation Virgo throughout the month.

He is an evening star; and sets on the 1st at 7h. 21m.; on the 15th, at 6h. 41m.; and on the last day, at 5h. 44m. The Sun sets on these days 35 minutes, 27 minutes, and 3 minutes before the planet. On the 9th he sets at the W. by S.; and towards the end of the month, near W.S.W. He moves eastward among the stars till the 24th; is stationary among them on the 25th; and moves westward from the 26th. He is near the Moon on the 7th; Mars on the 8th, and again on the 26th; is near Spice Virginis on the 20th; and is at his greatest eastern elongation on the 12th. His path in the heavens is shewn in the diagram below.

VEXUS is in the constellation Virgo till the 11th; and in that of Libra from the 12th.

She is an evening star; she sets, on the 1st. at 7h. 55m. P.M.; on

Libra from the 12th.

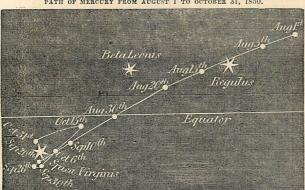
She is an evening star; she sets, on the 1st, at 7h. 55m. r.M.; on the 15th, at 7h. 22m. r.M.; and on the last day, at 6h. 50m. r.M.; on the 11th at the W.S.W., and on the 28th at the S.W. by W. points of the horizon. She is moving eastward among the stars, and is near the Moon on the 9th. For her path in the heavens see the diagram in November; and for her becoming the stars, and some content of the recognition in December.

telescopic appearance see the engraving in December.

MARS is in the constellation Virgo throughout the month.

He is an early evening star, and sets, on the 1st, at 7h. 34m. P.M.; on the 15th, at

PATH OF MERCURY FROM AUGUST 1 TO OCTOBER 31, 1850.



Scale, 24 degrees to one inch.

6h. 54m. P.M.; and on the last day, at 6h. 12m. P.M.; near the W. at the beginning of the month, and at the W. by S. point of the horizon on the 21st: he is

moving eastward among the stars; he is near the Moon and Mercury on the 7th, and again near Mercury on the 26th. His altitude above the horizon when he souths on the 1st is 36\frac{2}{3}\cdot\text{decreasing to 29}\text{o nearly on the last day.} For his path in the heavens during this month, see the diagram in November.

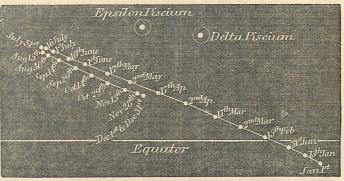
Jupiter is in the constellation Virgo throughout the month.

He sets, on the 1st, at 7th. 32m. p.m.; and on the last day, at 5th. 45m. p.m.; near the W. point of the horizon. His altitude at the time of southing on the 1st is 40\frac{2}{3}\tau; and on the last day, is 37\frac{2}{3}\tau. His motion is slowly eastward among the stars; and he is near the Moon on the 7th. For his path in the heavens see the diagram in May. stars, and he should be the solution of the star in the solution of the diagram in May.

Saturn is in the constellation Pisces throughout the month.

He is visible throughout the night; and rises on every day near the E. by N.

PATH OF SATURN DURING THE YEAR 1850.



Scale, 6 degrees to one inch.

point of the horizon, at 8h. 4m. P.M., on the 1st; at 7h. 8m. P.M., on the 15th; and point of the horizon, at 8h. 4m. P.M., on the 1st; at 7h. 8m. P.M., on the 1sth; and at 6h. 7m. P.M., on the 30th. He souths at an altitude of 43° 1 hearly. He moves slowly westward among the stars, and is near the Moon on the 23rd. His path among the stars throughout the year is shown in the above diagram. URANUS is in the constellation Aries throughout the month. He rise, on the 1st, at 8h. 9m. P.M.; and on the 31st, at 6h. 13m. P.M. He souths on the 15th, at 2h. 15m. A.M., at an altitude of 49° 2 hearly. He moves westward among the stars, and is near the Moon on the 23rd.

NEPTUNE rises, on the 1st, at 6h. 41m. P.M.; on the 15th, at 5h. 45m. P.M.; and on the last day, at 4h. 46m. P.M.

ON THE APPARENT MOTIONS OF THE SUN, MOON, AND PLANETS. (Continued from page 33.)

September, the lengths of both days and nights are equal all over the

earth.

The circle which the sun describes is called the Ecliptic—so named from the circumstance of the Moon, at the time of her eclipse, occupying that part of the heavens which is passed over by the Sun; in fact, as was frequently stated last year, no eclipse of either the Sun or Moon can take place unless the Sun, the Moon, and the Earth are in, or nearly in, the same straight line.

The Ecliptic is, and has been from time immemorial, divided into twelve equal parts, called Signs—each of which, therefore, contains one-twelfth part of the whole circle, or thirty degrees. The names and symbols of these signs are inserted on page 3. The space extending eight degrees on either side of the Ecliptic is called the Zodiac; and within this space the greater part of the celestial phenomena connected with the planetary system takes place.

The motion of the Sun in his orbit is not uniform. This is evident from the fact of his remaining several days longer in the northern than in the southern signs. On page 3 will be seen the length of the seasons, from which it appears that at present Spring is shorter than Summer, and the Autumn longer than Winter; and that the interval of time between the vernal and autumnal (Continued on page 41.)

(Continued on page 41.)

Days of the Month.	TIM			ETS SOU		OR	JUPITER'S SATELLITES.	OCCULTA	TION	IS OF STARS BY T	THE MOO	N.
Day the Day	Mercury. Afternoon	Venus. Afternoon	Mars. Afternoon	Jupiter.	Saturn. Morning.	Neptune.	Eclipses of	Names of the Stars.	tude.	Times of disappearance & re-appearance of the Star.	At which limb of the Moon.	Between what Latitudes visible.
1 6 11 16 21 26 30	H. M. 1 28 1 31 1 31 1 27 1 19 1 3 0 43	H. M. 2 40 2 41 2 42 2 43 2 44 2 45 2 46	H. M. 1 41 1 33 1 26 1 18 1 11 1 3 0 58	H. M. 1 13 0 57 0 42 0 26 0 10 Morn. 11 42	H. M. 2 39 2 19 1 58 1 37 1 16 0 55 0 39	H. M. 11 53 11 33 11 12 10 52 10 32 10 12 9 56	Are not visible, Jupiter being too near to the Sun.	29 Ophiuchi Omieron Capri- corni Iota Aquarii 70 Aquarii Aldebaran	6 6 4 6	D. H. M. {12 9 7 P.M. 12 9 45 P.M. 16 11 31 P.M. 17 0 34 A.M. 18 10 54 P.M. 18 11 40 P.M. (19 7 20 P.M. (19 8 16 P.M. Atthetime of Im- mersion below the horizon. 26 9 8 P.M.	Dark Bright Dark Bright Dark Bright Dark Bright	4° N. & 70° N. 2° N. & 66° N. 30° N. & 75° N. & 79° N. & 79° N. & 22° N. & 90° N.
T	MES of C	HANGES	OF THE M	100N,	- - E	PCHPY	RIGHT ASCENSIONS AND DE			E PLANETS.	25000	PICLINE

TIMES OF CHANGES OF THE MOON,	he he	1		R	GHT A	SCENSIC	INS AN	ID DECL	INATIO	ONS OF	THE P	LANETS		Same and	
And when she is at her greatest distance	of t	MEB	CURY.	VEN	US.	MAR	ts.	JUPI	TER.	SATU	RN.	URAN	ius.	NEPT	UNE.
(Apogee), or at her least distance (Peri-	No Mo	Right	Decli- nation	Right	Decli-	Right	Decli- nation								
gee), from the Earth in each Lunation.		Ascensio	South.		South.	Ascension	South.	Ascension	North.	Ascension	North.	Ascension	North.	Ascension	South.
NEW MOON 6D. 5H. 28M. A.M.	1	12h. 9	n 2' 2'	13h. 21m	9° 30′	12h. 22m		11h.54m	1° 48′	1h.19m	5° 25′	1h. 53m	10° 58′	22h. 31m	
FIRST QUART. 13 8 21 A.M.	6	12 31	5 14	13 41	11 54	12 34	3 11	11 58	1 23	1 18	5 18	1 52	10 56	22 31	10 17
FULL MOON 21 0 40 P.M.	11	12 51	8 5	14 2	14 12	12 46	4 30	12 2	0 58	1 17	5 11	1 52	10 53	22 30	10 20
LAST QUART. 28 9 53 P.M.	16	13 7	10 27	14 23	16 23	12 58	5 50	12 6	0 32	1 16	5 3	1 51	10 50	22 30	10 23
PERIGEE 4 10 P.M.	21	13 19	12 7	14 44	18 26	13 11	7 9	12 10	0 6	1 14	4 55	1 51	10 47	22 29	10 25
APOGEE 17 1 A.M.	26	13 23	12 45	15 4	20 49	13 23	8 27	12 14	South.	1 13	4 46	1 50	10 43	22 29	10 27

SEPTEMBER. -LOBSTER FISHING OFF FOLKESTONE.

NOTES ON NATURAL HISTORY.—SEPTEMBER.

NOTES ON NATURAL HISTORY.—SEPTEMBER.

SEPTEMBER is the favourite month of sportsmen; and in the first week or two, in addition to the ordinary number of partridges, many corn-crakes are killed, as they are generally very abundant in the fields, particularly where seed clover has been sown with barley. Corn-crakes, Mr. Yarrell observes, are excellent game for young sportsmen, as they fly very slowly with their legs hanging down, and seldom go farther than to the nearest hedge; while they are so highly prized as food, that it was formerly said two landrails are a present for a Queen. The corn-crake or landrail will put on the appearance of death when exposed to danger from which it cannot escape; and Mr. Jesse relates the following incident in proof of this assertion:—"A gentleman had a corn-crake brought to him by his dog, to all appearance quite dead. As it lay on the ground, he turned it over with his foot, and felt convinced that it was dead. Standing by, however, in silence, he suddenly saw it open an eye. He then took it up; it head felt; its legs hung loose, and it appeared again quite dead. He then put it in his pocket, and before long he felt it all alive, and struggling to escape. He then took it ut; it was as lifeless as before. Having laid it again upon the ground, and retired to some distance, the bird in about five minutes warily raised its head, looked round, and decamped at full speed." There are two other kinds of corn-crake besides the common species: the one is called the spotted corn-crake, and is very prettily marked with white spots on the wings; and the other, which is called the little crake, is of an olive-brown colour, and much smaller than the other kinds.



LITTLE CRAKE.

There are but few plants in flower at this season; and though the woods are ray, from the autumnal tints taken by the leaves of some of the trees, many ray, from the autumnal tints taken by the leaves of some of the trees, many leaves have fallen, and the mornings and evenings have become cold and damp. Among the few flowers left may be seen the colchicum, which resembles the crocus in its form, but which is of a much paler lilac, and which has long, slender, succulent, white stems, without any appearance of leaves (which, indeed, do not show themselves above ground till the following spring, when they appear, together with their fertilised seed-vessels—which, by a wise provision of nature, have remained buried in the earth during the winter). This plant is employed by medical men, and has an extraordinary effect in lulling the pain of gout and rheumatism; but it is a very dangerous medicine, and an over-dose has frequently proved fatal. quently proved fatal.

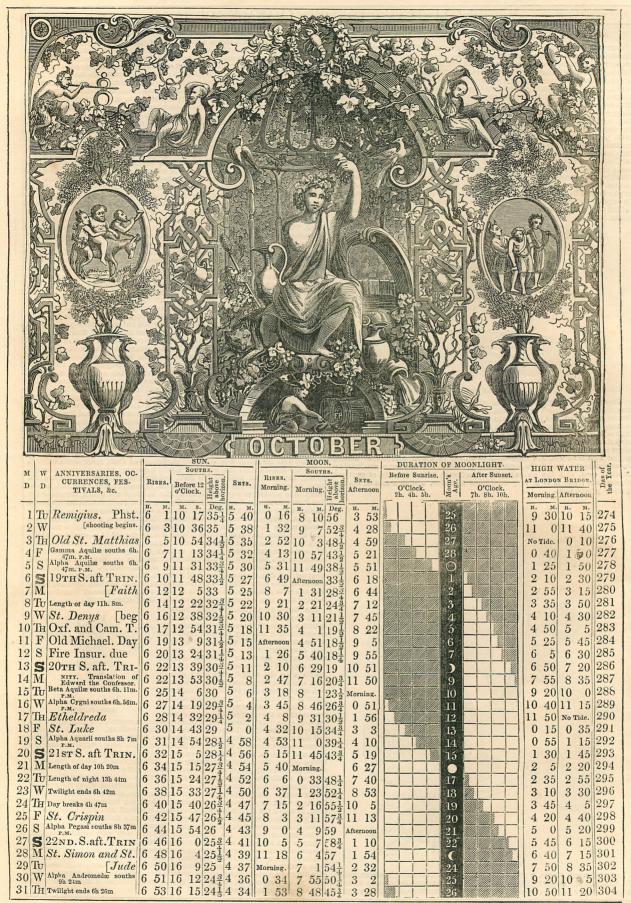


COMMON NAVEL-WORT.

In moist, warm places, a curious plant is found in flower at this season, called the Common Navel-wort (Cotyledon Umbilicus). It generally grows on walls or cottage roofs, or moist rocks; and its principal ornament consists in its singularly-

shaped leaves, which are drawn down in the centre, so as to form a kind of cup, or wine-glass, the stalk of which is formed by the foot-stalk which proceeds from the centre of the under side of the leaf. The whole plant is very succulent, including the flowers, which are greenish in the common kind. In the Greater Navel-wort, on the contrary, the flowers are the most ornamental part, as they are of a bright yellow, and they form a large erect spike; while the leaves are not remarkable for their beauty. In some parts of the country this plant is called Penny-wort, from the shape of the leaves, which are sometimes round and flat, like a penny. In September files begin to be very troublesome; and, though they do not sting like gnats or mosquitos, they are, perhaps, still more disagreeable from the incessant buzzing they keep up around us, and the irritation they occasion by settling on the hands and face. The immense numbers of these troublesome insects surpass all belief, and it is said that in some places they have been known to be fifty to the square inch. "It is a remarkable, though as yet unexplained fact," observes Mr. Spence, in the sixth edition of the Introduction to Entomology, "that if nexts of thread or string, with meshes a full inch square, be stretched over the open windows of a room in summer or autumn, when flies are the greatest nuisance, not a single one will venture to enter from without; so that by this simple plan a house may be kept free from these pests, while the adjoining ones, which have not had nets applied to their windows, will swarm with them. In order, however, that the protection should be efficient, it is necessary that the rooms to which it is applied should have the light enter by one side only; for, in those which have a thorough light, the flies pass through the meshes without scruple." "It is a singular fact," Mr. Spence observes, in another place, "that Herodotus, above two thousand years ago, stated that the Egyptian fishermen protected themselves from the attacks of mosqui supposed error is not that of Herodotus, but of his commentators, who, ignorant of the fact above related as to flies being excluded by wide-meshed nets, could not conceive it to be the case with mosquitos." As house-flies generally lay their eggs in stable manure, Mr. Spence suggests that the number of flies might be greatly lessened in large towns if the stable dung were kept in pits closed by trap-doors. However, if this were the case, it would not be completely efficacious, as it is known that flies will lay their eggs in almost any kind of filth; and their maggots have been found in sinks and other similar places. It was formerly supposed, from the experiments of Sir Everard Home, that flies were enabled to walk against glass, and with the back downwards in various situations, by the formation of a vacuum under the soles of their feet, if they may be so termed, as it was observed that the margins of the feet were closely applied to the glass, while the central part was drawn up. It has, however, now been discovered that this hypothesis was not correct, as Mr. Blackwall (a gentleman residing in Manchester, and an acute observer of nature) noticed that flies remained attached to the sides of an exhausted glass receiver of an air-pump, even after they had it was observed that the margins of the feet were closely applied to the glass, while the central part was drawn up. It has, however, now been discovered that this hypothesis was not correct, as Mr. Blackwall (a gentleman residing in Manchester, and an acute observer of nature) noticed that files remained attached to the sides of an exhausted glass receiver of an air-pump, even after they had entirely lost the power of locomotion, and an evident distension of the body had been occasioned by the exhaustion of the air. To detach them from these stations, Mr. Westwood adds, the employment of a small degree of force was found requisite. "In prosecuting this subject, clean philals of transparent glass, containing splars and various insects in the larva and image (perfect) states, capable of walking on their upright sides, were breathed into, till the aqueous vapour expelled om the lungs was oppiously condensed on their inner surface. Trasult was manakaballe and the most of the containing any effectual hold on the glass, and the evented those autimals from clambing any effectual hold on the glass, and the event was equally decisive if a small quantity of oil was substanced the fluctures of the plaish, prevented the flies from climbing, and the idea naturally suggested itself that some glutinous substance was emitted by the feet of the flies which enabled them to adhere to the glass. The next point to be determined, therefore, was, whether spiders and insects in the larva and perfect states were found to leave any visible track behind them when they crawled over glass; and, by the aid of powerful magnifying-glasses, it was found that traces were left of an exceedingly minute quantity of guitnous matter, which appeared to have been emitted by the feet of these creatures; and subsequent experiments proved that the hair-like appendages which form the brushes of spiders and flies are all tubular. It has often been observed that flies that have been half drowned, if taken out of the milk or water with the female is on the





OCTOBER.

OCTOBER.

The Sun is situated south of the Equator, and is moving south. On the 23rd day, at 6h. 13m. p.m., he passes from the sign Libra to Scorpio (the Scorpion), having been in the former sign 30 days 8 hours and 13 minutes. He rises and sets on the 11th, at the E. by S. and W. by S.; and on the 30th, at the E.S.E. and W.S.W. points of the horizon respectively. On the 1st day he is 95,039,000 miles from the Earth.

The Moos enters Leo on the 1st; Virgo on the 4th; Libra on the 7th; Ophiuchus on the 9th; Sagittarius on the 11th; Capricornus on the 13th; Aquarius on the 16th; Pisces on the 17th; Cetus on the 19th; she is near Pisces and Cetus on the 21st; and Arles and Cetus on the 29th; she enters Taurus on the 22nd, and passes the Milky Way on the 25th; she enters Gemini on the 26th; Cancer on the 27th; Leo on the 28th; and Virgo on the 31st.

She is above the horizon when the Sun is below, during the morning hours from the 18th to the end of the month, and during the evening hours from the 8th to the 25th.

She is north of the Equator till the 5th, on which day she crosses the Equator going southward, and reaches her extreme south position on the 12th: she then begins to move northward; is on the Equator on the 19th, and on the 26th

going southward, and reaches her extreme south position on the 12th: she then begins to move northward; is on the Equator on the 19th, land on the 26th reaches an extreme north position.

She is near Mercury and Jupiter on the 5th; Mars on the 6th; Venus on the 9th; Saturn on the 20th; and Uranus on the 20th.

Mencury is in the constellation Virgo throughout the month.

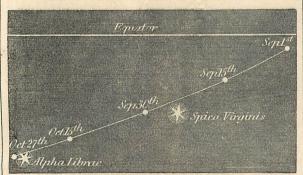
He is a morning star after the 8th, till which day the Sun rises before him; on the '5th he rises at 5h. 12m., being 1h. 3m. before the Sun; on the 24th he rises at 4h. 51m., being 1h. 50m. before the Sun; and on the last day, at 5h. 15m., the Sun rising 1h. 49m. afterwards. He is favourably situated from the 15th for observation before sunrise. On the 15th he rises midway between the E. and E. by S. points of the horizon; and near the end of the month the point of his rising is E. by S. nearly. He moves westward among the stars till the 15th; is stationary among them on the 16th; and moves eastward from the 17th, as is shewn in the diagram exhibiting his path in September.

Vexus is in the constellation Libra till the 3rd, and in that of Scorpio from the 4th to the 26th; and in Sagittarius on the 27th.

She is an evening star; and sets, on the 1st, at 6h. 48m. p.m.; on the 15th, at 6h. 24m. p.m.; and on the last day, at 6h. 3m. p.m.; at the S.W. by W. at the beginning, and at the S.W. at the end of the month. She moves slowly eastward among the stars; is at her greatest elongation on the 6th; is near the Moon on the 9th, and Antares on the 14th. For her path among the stars, see the diagram in November; and for her telescopic appearance, see the engraving in December. She is now becoming brilliant.

Mars is in the constellation Virgo till the 14th, and then enters Libra. He is an early evening star; and sets, on the 1st, at 6h. 9m. p.m.; on the 15th, at 5h. 32m. p.m.; and on the last day, at 4h. 55m. p.m.; near W. by S. at the

PATH OF MARS FROM SEPTEMBER 1 TO OCTOBER 27, 1850.



Scale, 12 degrees to one inch.

beginning, and the W.S.W. points of the horizon on the 18th. He is moving eastward among the stars, and is near the Moon on the 6th. His altitude above the horizon when he souths, at the beginning of the month, is $280^\circ \frac{\pi}{4}$; and is $21^\circ \frac{\pi}{4}$

t the end of the month. His path among the stars is shewn in the preceding

diagram. JUPITER is in the constellation Virgo throughout the month. He sets, at the beginning of the month, the same time as the Sun sets; and after that time, he sets before the Sun. He rises, on the 1st, at 5h. 39m. A.M.; and on the last, at 4h. 18m. A.M., at the east point of the horizon. His altitude on southing, on the 1st, is $37^{\circ 2}_{3}$; and on the last day, is $35^{\circ 2}_{3}$. His motion is slowly eastward among the stars; and he is near the Moon on the 5th. His path among the stars is shewn in the diagram in May.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION



SATURN is in the constellation Pisces throughout the month.

He is visible throughout the night; and rises midway between the E. and E. by N. points of the horizon, on the 1st day, at 6th. 3m. P.M.; on the 15th, at 5th. 6m. P.M.; and on the last day, at 4th. 0th. P.M. He souths at an altitude of 42° a nearly. He moves slowly westward among the stars; and is near the Moon on the 20th. See the diagram of last month. UBANUS is in the constellation Aries throughout the month. He rises, on the 1st, at 6th. 9m. P.M.; and on the 31st, at 4th. 9m. P.M. He souths, on the 15th, at 15 minutes after midnight, at an altitude of 49°. He moves slowly westward among the stars; and is near the Moon on the 20th. NEPTUNE rises before the Sun sets; and sets, on the 1st, at 3th. 6m. A.M.; and on the last day, at 1th. 0m. A.M.;

on the last day, at 1h. 0m. A.M.

ON THE APPARENT MOTIONS OF THE SUN, MOON, AND PLANETS. (Continued from page 37.)

equinoxes, viz. 186 days, 10 hours, and 57 minutes, is 7 days, 15 hours, and 58 minutes longer than the interval between the autumnal and vernal exquinoxes. The Sun moves with the greatest velocity when at a point situated near the winter solstice; his daily motion at this time is about 1 degree, 1 minute, and 10 seconds. He moves with the least velocity when at a point near the summer solstice, when his daily motion is about 57 minutes and 11 seconds. It is constantly varying between these points. The average of all his daily motions is 59 minutes and 11 seconds nearly, which is his rate of motion about the beginning of April and

October.

The point of the solar orbit which is at the greatest distance from the earth is called the apogee (away from the Earth); and the apparent diameter of the Sun at this time, as viewed from the Earth); as about 31 minutes and 31 seconds, which is its least value. The point of the solar orbit which is occupied by the Sun when he is nearest the Earth is called perigee (near the earth); and at this time his apparent diameter is about 32 minutes and 36 seconds, which is its greatest value. The average of all his apparent diameters, or that diameter of the Sun when he is at his average distance, is about 32 minutes and 3 seconds.

The Sun when viewed by the naked eye appears to be uniformly luminous, but when examined by means of the telescope there frequently appear some spots of an irregular and ill-defined form upon his surface. These spots for some time past have been very frequent. Sometimes they are of an immease size, and visible without the aid of a telescope. These spots first appear at the eastern edge of the Sun, and disappear at his western edge; and at times the same spots, after the lapse of nearly a fortnight, re-appear at the eastern edge of the Sun. The interval of time between the same spots occupying the same relative position is about 27 days and 8 hours.

The motion of the Moon among the stars is very rapid. She passes over a

is about 27 days and 8 hours.

The motion of the Moon among the stars is very rapid. She passes over a space equal to her diameter in about one hour; and in the course of a few hours the apparent distances between her and adjacent stars are very different. Her apparent motion, like that of the Sun, is always from west to east.

The various illustrations in this Almanack, exhibiting the apparent paths of the planets, include that of Mercury from January 1 to the middle of December; that of Venus from March 1 to the end of the year; that of Mars from January 1 to October 27; and those of Jupiter and Saturn for the whole year.

From these diagrams it will be remarked, that the apparent motions of the

(Continued on page 45.)

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of ith.	TIM		HE PLAN			OR	JI	PITER	'S SATEL	LITES.		C	CCULTA	TIONS	OF STARS	SBYT	HE MOOI	v.
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-				5	# ME	RCURY.	VEN	US.	MAR	S.	JUP	ITER.	SATU	JRN.	URAN	ius.	NEPT	UNE.
(A	IMES OF CHANGES OF THE MOON, Ind when she is at her greatest distance (Apogee), or at her least distance (Perigee), from the Earth in each Lunation.						Right Ascension	Declination South.	Right Ascension	Declination South.	Right Ascensio	Decli- nation South	Right Ascension	Decli nation North	Aggangion	Declination North.	Right Ascension	Declination South.
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OCTOBER. - HERRING FISHING, ISLE OF MAN.

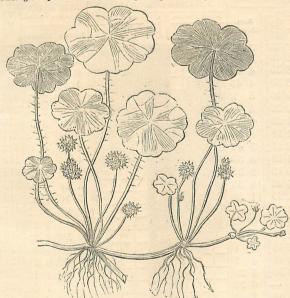
NOTES ON NATURAL HISTORY.—OCTOBER.

NOTES ON NATURAL HISTORY.—OCTOBER.

In this month many of the summer birds take leave of this country, and the winter birds arrive. Among the latter may be mentioned the wild swam, the wild goose, and the wild duck. All these aquatic birds make a harsh screaming as they pass over the land, which is the more annoying as they all fly at night as well as by day. The stork is the only one of these birds of passage which is not clamorous. "Before the storks take their departure from their northern summer residence," says Mr. Forster, "they assemble in large flocks, and seem to confer on the plan of their projected route. Though they are very silent at other times, on this occasion they make a singular clattering noise with their bills, and all seems bustle and consultation. It is said that the first north wind is the signal for their departure, when the whole body become silent, and move at once, generally in the night, and, taking an extensive spiral course, they are soon lost in the air." Cranes, on the contrary, are very noisy; but they are very rare in this country. Wild geese are, however, common; and the flocks are always in the shape of a wedge when they fly, so that the birds may cut the air with less individual exertion. Sometimes, however, they change their line to the reason for these changes is not known. The Canada or cravat goose is only occasionally seen in this country: it is a remarkably beautiful goose, with a glossy black neck and white cheeks, which render it, as Mr. Waterton observes, "so particularly conspicuous, that those who have seen it once can never be at a loss to recognise it when viewed among all the other species of the goose tribe. There can be nothing," continues Mr. Waterton, "more enlivening to rural solitude than the trumpet-sounding notes of the Canada goose. They can be heard here [at Watton Hall] at most hours during the day, and often during the night." Mr. Waterton afterwards bought two barnacle geese at Rotterdam; and on their arrival at Walton Hall, they were turned on the

Like leaves on trees the race of man is found— Now green in youth, now withering on the ground; Another race the following spring supplies, They fall successive and successive rise: So generations in their course decay, So flourish these when those are plass'd away.

Among the plants which are still growing luxuriantly on moist heaths and

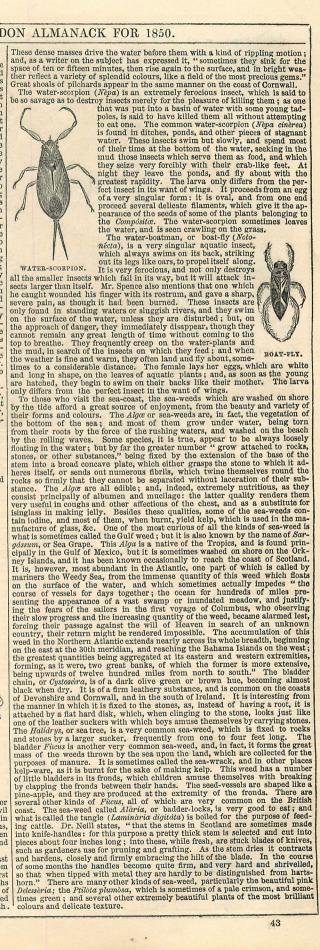


MARSH-PENNYWORT.

in marshy places, may be mentioned the little plant called marsh-pennywort or in marshy places, may be mentioned the little plant called marsh-pennywort or white-rot (Lydprocdvyle vulguris); the latter name alluding to its supposed evil properties in giving the rot to sheep; and the former to the situations in which it is found, and the shape of its leaves. The flowers are inconspicuous, but the plant itself is rather pretty; and it has the advantage of looking green and fresh when nearly all the vegetation around it has been brown and withered.

withered. At this season immense quantities of herrings are found on the southern coast of England. The shoals of this fish (which is said to derive its name from the German word heer, an army, in allusion to its countless multitudes) are first seen off the Shetland Islands in April and May; but in the succeeding months they seem gradually to advance southward; till at last, about the beginning of September, there appears on the south coast an immense mass of fish, divided into distinct columns of five or six miles in length, by three or four in breadth.







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6	W	Leonard	7	4	16	12	221	1 24	9 21	1 51	201	6 16			2	111111111111111111111111111111111111111	3 10 3 25 310
7	TH	Length of day 9h 16m	7	6	16	9	221	1 22	10 22	2 41	18	6 57			$\bar{3}$		3 45 4 .5 311
8	F	Length of night 14h 45m	7	7	16	5	22	1 22	11 19	3 32	173	7 44			4	2000	4 20 4 40 312
0	S	Lord Mayor's D.	17	0	16	0	213	1 20	Afternoon	4 21	181	8 37				10 11111	
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12	IU	Camb. T. divides	1	14	15	41	204	1 16	1 48	6 40	25	11 39			8		7 10 7 45 316
13	W	Britius	1	10	15		203	1 14	2 13	7 24	4	Morning.			9		8 25 9 5 317
14	TH	Alpha Pegasi souths 7h	7	18	15	24	204	1 12	2 34	8 8	$32\frac{3}{4}$	0 45			10		9 40 10 20 318
15	F	Machutus	7	20	15	14	20	1 11	2 57	8 52	$37\frac{1}{4}$	1 51	1		11		10 50 11 25 319
16	S	Alpha Andromedæ souths Sh 17m P.M.	7	21	15	3	1934	1 10	3 17	9 37	413	3.0			12		11 50 No Tide. 320
17	5	25TH S. af. TRIN.	7	23	14	52	19 4	1 9	3 40	10 24	461	4.9			13		0 15 0 35 321
18	M	[Hugh, Bishop of Lincoln	7	25	14	39	1944	1 8	4 6	11 14	503	5 20			14		0 55 1 15 322
19	Tu	Alpha Arietis souths 10h 3m P.M.	7	27	14	26	19 4	1 7	4 35	Morning.		6 35					1 30 1 50 323
20	W	Ed. King & Mar.	7	28	14	12	183	1 6	5 11	0 6	541	7 49		- 10	16		2 10 2 30 324
21	TH	Princess Royal b.	7	30	13	57	181/4	1 4	5 56	1 2	57	9 1		_	17		2 45 3 5 325
22	F	St. Cecilia	7	31	13	42	181	3	6 50	2 1	583	10 10			18		0
23		Old Martin. Day	7	33	13	26	183	2	7 54	30	591	11 8		-	- 1879		0 10
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27	W	[born, 1833.]	1	39	12	12	17 5 3	00	Morning.	0 45	475	1 36			23		7 40 8 20 331
28	IH	Day breaks 5h 38m	7	40	11	52	1743		0 57	7 35	$42\frac{1}{2}$	1 59			24		9 5 9 40 332
29	F	Twilight ends at 5h 58m.	7	42	11	31	17 3	C. 17 (35) (37)	2 13	8 24	371	2 22			25		10 15 10 55 333
30	S	St. Andrew	7	44	11	9	1633	3 54	3 29	9 13	$32\frac{3}{4}$	2 47			26		11 30 11 55 334
-	-		inger	-	-	Calculation of the last	-					-		-			

NOVEMBER.

The Sun is situated south of the Equator, and is moving south. He passes, on the 22nd day, at 3h. 7m. p.m. from the sign Scorpio to Sagittarius, having been in the former sign 29 days 20 hours and 54 minutes. He rises and sets on the 1st near the E.S.E. and W.S.W.; and on the 26th, at the S.E. by E. and S.W. by V. points of the horizon. On the 1st day his distance from the earth is 94,224,000 miles.

on the 29th.

MERCURY is in the constellation Virgo till the Strip in Libra from the 9th to the 23rd; in Scorpio from the 24th to the 27th; and he moves on the boundaries of Scorpio and Ophiuchus to

on the boundaries of Scorpio and Ophiuchus to the end of the month.

He is a morning star till towards the end of the month. He rises on the 1st at 5h. 19m.; on the 10th, at 6h. 6m.; and on the 25th, at 7h. 30m. The Sun on these days rises 1h, 37m., 1h. 4m., and 6m. after the planet. The planet rises on the 1st, at the E. by S.; on the 12th, at the E.S.E.; and on the 25th, at the S.E. by E. points of the horizon. He moves eastward among the stars during the month; is near the Moon on the 2nd, and Mars on the 28th. The position they occupy in the heavens at these times will be seen by reference to the annexed diagram, showing the path of Mercury in the heavens.

PATH OF MERCURY FROM NOVEMBER 1 TO DECEMBER 13, 1850.



Scale, 12 degrees to one inch.

VENUS is in the constellation Scorpio throughout the month. Verus is in the constellation Scorpio throughout the month.

She is an evening star; and sets on the 1st, at 6h. 2m. p.m.; on the 15th, at
5h. 42m. p.m.; and on the last day, at 5h. 10m. p.m.; near the S.W. point of the
horizon all the month. She moves slowly eastward to the 23rd; is stationary
from the the 24th to the 27th; and moves slowly westward among the stars to the
28th. She is at her greatest brilliancy on the 10th; and is near the Moon on
the 7th. Her path in the heavens is shown in the annexed engraving; and for
her telescopic appearance see next month.

Mars is in the constellation Libra till the 19th; on which day he enters Scorpio.
He sets on the 1st, at 4h, 52m. p.m.; and on the last day, at 3h. 47m. p.m.

Till the 24th he sets a few minutes after the Sun; and after the 24th, a few minutes before the Sun. He sets near the S.W. by W. point of the horizon; he is moving eastward among the stars; is near the Moon on the 4th, and Mercury on the 28th. His altitude above the horizon when he souths, on the 1st, is 21%; and it is 16% on the last day.

JUPTER is in the constellation Virgo throughout the month.

He rises on the 1st at 4h. 15m. A.M.; and on the last day at 2h. 51m. A.M., at the E. point of the horizon. His altitude on southing, on the 1st, is 35%; and on the last day, is 33%. He moves eastward among the stars; is near the

PATH OF VENUS FROM AUGUST 21 TO DECEMBER 31, 1850.



Scale, 24 degrees to one inch.

Moon on the 1st, and again on the 29th. His path among the stars is shown in the diagram in May.

JUPITER'S SATELLITES.—A few Immersions, of which those of the first, second, and third Satellites are visible. The relative position of the Satellites to Jupiter at the instant of the eclipse is shown in the annexed diagram, as viewed through an inverting telescope.

RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION OR EMERSION.

3rd Sat. 2nd Sat. Tm.

SATURN is in the constellation Pisces throughout the month.

He is visible throughout the greater part of the night. He rises before the Sun sets; and sets midway between the W. and W. by N. points of the horizon, on the 1st, at 4h. 46m. Am.; and on the last day, at 2h. 44m. Am. He souths at an altitude of 42° nearly. He moves slowly westward among the stars; and is near the Moon on the 16th. See the diagram in September.

URANUS is in the constellation Aries throughout the month.

He sets on the 1st, at 6h. 3m. A.M.; and on the 30th, at 4h. 2m. A.M. He souths at 10h. 4m. P.M., at an altitude of 48°, on the 15th. He moves slowly westward among the stars; and is near the Moon on the 17th.

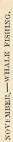
NEPTUNE sets on the 1st, at 0h. 55m. A.M.; and on the last day, at 10h. 59m. P.M.

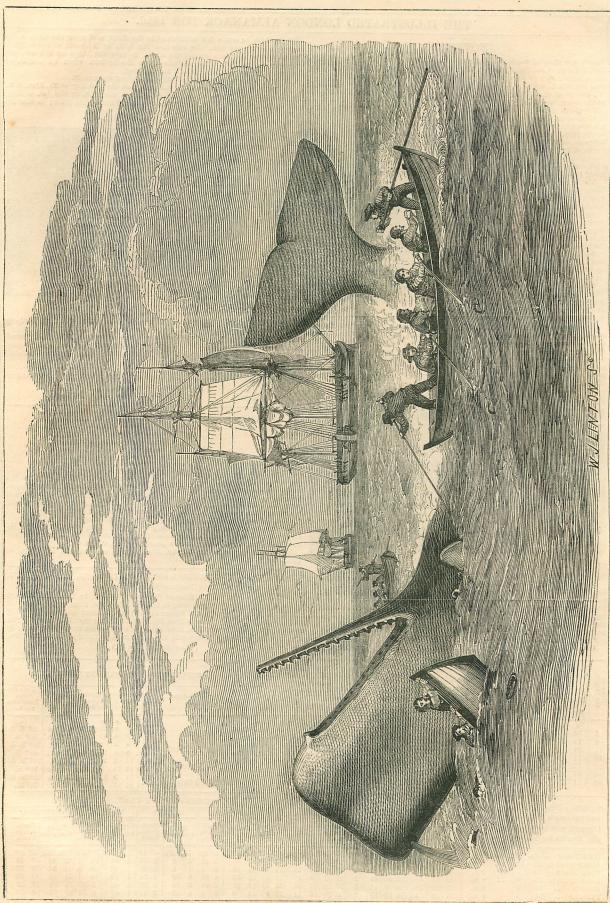
ON THE APPARENT MOTIONS OF THE SUN, MOON, AND PLANETS. (Continued from page 41.)

planets are not always, like those of the Snn and Moon, in the same direction, but that they generally are moving in that direction, viz. from west to east.

Till the planets Mercury and Venus reach their greatest eastern elongation, or those planets, whose distances from the Sun are greater than that of the Earth, reach their eastern quadratures, their apparent motions are from west to east; in the course of a few days afterwards they seem to be stationary among the stars. (Concluded on page 49.)

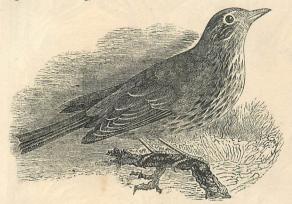
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NOTES ON NATURAL HISTORY.—NOVEMBER.

THE Ist of November is All Saints' Day; and the night before, which is called Allhallow E'en, is celebrated by various rural sports and modes of divination. With the commencement of November, however, the gaiety of nature seems to cease. Among birds, however, November is a gayer month than July and August; for, in November, many of them sing as agreeably as in early spring. In this month most of the summer birds take their departure, but the winter birds arrive to, take their places. Among these winter birds, one of the best proporties is the radwing while arrives in foats from the north and north cest of songsters is the redwing, which arrives in flocks from the north and north-east of



REDWING.

Europe, not later than the first week in November, arriving generally a week or two before the fieldfare; and, when the winters are severe, Mr. Yarrell informs us that it has been observed "that the redwings are unable to bear hard weather so well as the fieldfares. While in this country, the redwings inhabit parks and so well as the fieldfares. While in this country, the redwings inhabit parks and pleasure-grounds that are ornamented with clumps of trees; and, like the common thrush, which they most resemble in their external appearance, they seek their subsistence in mild and open weather in pasture lands and moist meadows, feeding principally on worms, snails, and other soft-bodied animals. They are much less inclined to feed on berries than most of the thrush tribe; and, should the resources usually obtained by their search on the ground be closed against them by long-continued frost and snow, the redwings are the first among birds to suffer; and during some severe seasons, such as 1799, 1814, and 1822, hundreds have been found almost starved, alike unable to prosecute their journey farther south to more congenial countries, or to bear the rigour of this." The song of the redwing is generally allowed to be very beautiful; and Linneus, several times in his Tour in Lapland, mentions the song of the redwing, "whose amorous warblings from the top of a spruce fir," he says, "were delightful; whose amorous warblings from the top of a spruce fir," he says, "were delightful; whose amorous warblings from the top of one inghtfugale herself." Other writers praise the "delightfully wild notes" of this bird, and mention that in Sweden and Norway, where it breeds, it is excessively shy when any one approaches its nest.

nest.

Oysters are in perfection in this month. They are generally found fixed to a rock, or some other submarine object, apparently enjoying only the nourishment brought by the waves, and scarcely giving any sign of life except by the opening and shutting of the valves. The oysters adhere to stones and other objects by means of a mucilaginous liquid with which they are covered as soon as they are formed, and which seems to be of the same nature as that with which they increase their shells. In some places, particularly at the months of the great African rivers, where there are great quantities of mangrove trees growing with their trunks several fact doen in the water great quantities of oversers are found. African rivers, where there are great quantities of mangrove trees growing with their trunks several feet deep in the water, great quantities of oysters are found attached to the roots and lower branches of the trees; so that, as Mrs. Lee tells us, it is by no means an uncommon occurrence to send a slave to cut off a branch or two of the tree-oyster to furnish a meal. She adds, that these cysters, which are generally very small, are remarkably delicate in their flavour. Oysters are also often found fixed to the backs of crustaceous animals—such as crabs and lobsters; and occasionally to the shells of other molluscous animals. As cysters belong to that class of multiscous animals which are furnished with two musters lobsters; and occasionally to the shells of other molluscous animals. As oysters belong to that class of molluscous animals which are furnished with two muscles attaching them to their shells, they can shut the valves with great force, and compress them close with extraordinary tenacity. Several curious stories are told of monkeys being caught by oysters in this manner; and on one occasion, it is said that a cat, having ventured on the sea-shore at low water, and having attempted to seize an oyster fixed firmly to a rock, was caught by the oyster closing the valves of its shell the moment it was pricked by the claw of the cat, and held there till it was drowned by the coming in of the tide.

and held there till it was drowned by the coming in of the tide.

The fieldfare, which is very nearly allied to the redwing, appears later in the season, arriving in large flocks, which spread themselves over the whole country, covering the pasture lands, and particularly the neighbourhood of rickyards, in search of worms and slugs, or any other soft-bodied animals that they can find, though on the appearance of frost and snow they fly to the hedges and feed upon any berries they can find. The call note of the fieldfare is very harsh; and though its song is harmonious, it is very inferior in beauty to that of the redwing. The common song thrush remains in England all the year, and it feeds principally on insects, worms, and snalls, picking the latter off the walls or trees on which they have fixed themselves to pass the winter, and breaking the shell very adroitly by beating it against a stone or a wall.

At this season, when the summer flowers are all over, and the ground is frequently covered with snow, there is scarcely anything left in the open air to intered the lover of a garden. It is true there is the resource of greenhouse plants; but

quently covered with snow, there is scarcely anything left in the open air to interest the lover of a garden. It is true there is the resource of greenhouse plants; but plants in pots, when kept in a room, have generally an unhealthy appearance, as they are seldom set out in the open air, and they are kept continually in an atmosphere which is highly injurious to them. At this season, therefore, it is very desirable to try experiments on vegetation, and the method which has been discovered of raising plants in hyacinth-glasses affords a very agreeable substitute for the interest which is felt in spring by the amateur gardener in watching the developement of vegetation in the open air. It is not exactly known with whom the idea of raising plants in this manner first originated, but it has been practised for some years, as some ladies residing near Epsom had, in 1835, eaten nuts from hazel bushes which they had reared in glasses, and afterwards planted out into the open ground. The mode of managing across in hyacinth-glasses is thus given in the Field Naturalist for April, 1833:—"Let a common hyacinth-glass, or other glass if more convenient, be filled about half or a third part full of

water; and a piece of card be prepared as a cover for the opening of the glass, so as to fit close and exclude the air. Fasten a strong thread or a piece of brass wire round an acorn—not iron wire, for it will rust and corrode the acorn, and frustrate the experiment.

Suspend the thread or brass wire from the card, or from a small transverse bar of wood or metal berrom a small transverse bar of wood or metal be-neath it, so that the acorn may be sustained at a short distance above the surface of the water, but near enough for the steam, which will be generated by the glass being kept in a warm room, to be comby the glass being kept in a warm room, to be communicated to the accorn, from which it will depend in a large drop. In a few weeks the germ will be found to burst the shell of the accorn; and in about a fortnight afterwards, the radicle, or little root, will protrude itself through the cleft, and take a downward direction into the water, where it will be continually extended and enlarged, by degrees throwing out external fibres, until, after a few days more, the other member of the germ will be seen to rise upwards till it comes near the card that covers the vessel, through which a hole must be cut to to rise upwards till it comes near the card that covers the vessel, through which a hole must be cut to allow of its free passage. This forms the stem of the tree, which will shortly be seen to throw out two cotyledons, or seed leaves, at its extremity, and shortly again other leaves; till, in the course of a few weeks from the commencement of the experiment, the tree will have grown to the height of several inches, and be ornamented at its top with leaves two or three inches long, and wide in proportion, besides smaller ones breaking out at its sides, the root meanwhile having continued growing



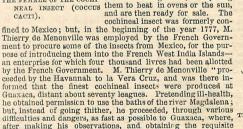
proportion, besides smaller ones breaking out at its sides, the root meanwhile having continued growing to a length exceeding that of the stem." In the year 1842, an account of this method of growing oaks was given in Paxton's Magazine of Botany, substituting a piece of cork for the card, and thread for the brass wire. In all other respects the experiment was the same. Supposing the acorn to be put into the glass in November, it will probably begin to germinate in January, or sooner, according as the acorn was fresh or old. If the acorn were but just gathered when it was put in, it will probably begin to germinate in the course of a month or six weeks at farthest; but if it were an acorn of the previous year, it would most probably not show any signs of life for a couple of months, or even more. The great point to be attended to is, keeping the cavity in the upper part of the glass above the water firmly closed, so as to prevent any evaporation of the water into the open air, since it will be impossible for the acorn to germinate unless the moisture which rises from the water is condensed and thrown back upon it; for it must be observed that air and moisture are both essential to germination, and that if the acorn is air and moisture are both essential to germination, and that if the acorn is suffered to be in the water the air cannot have access to it so as to make it grow. Many instances, indeed, have been known of seeds having remained under water for several years without vegetating; but which, the moment they were exposed to the air, began to grow: while, on the other hand, seeds, when kept perfectly dry, though they are exposed to the influence of the air, will remain an extraordinary length of time without germinating.

an extraordinary length of time without germinating.

Among the many interesting plants grown in the Botanic Garden at Kew, may be mentioned the Opintia cochinillifera, a kind of Indian fig, which is often attacked by a species of Cocus, which, when dried, forms the scarlet dye which we call cochineal. This Indian fig is very common in Mexico, where it is called the Nopal-tree, and where it is considered of so much consequence, from the value of the insects bred upon it, that it is introduced in the arms of the Republic. The Opinita is a species of Cictus, with large, flat, roundish, leaf-like stalks, which roduce the flowers and fruit, without the tree bearing any leaves properly so called. On these flat, leaf-like stalks, which are extremely succulent, there often appears a white woolly substance, resembling what is called the American blight on apple-trees; and this woolly substance is the covering of the female cochineal insects, which is the insect used for the dye. When fully grown, these insects are collected in Mexico and other countries where the plant



misects are collected in Mexico and other countries where the plant grows in great abundance, by women, who brush them off with the tail of a squirrel or a deer. They are then killed by dipping NEAL INSECT (COCCUS them to beat in ovens or the sui, and are then ready for sale. The cochingal insect was formedly con-



he obtained permission to use the baths of the Iver Biggulaenia; but, instead of going thither, he proceeded, through various difficulties and dangers, as fast as possible to Guaxaca, where, after making his observations, and obtaining the requisite information, he affected to believe that the cochineal insects were highly useful in compounding an ointment for his pretended disorder (the were highly useful in compounding an ointment for his pretended disorder (the gout), and therefore purchased a quantity of Nopals covered with these insects, of the fine or domestic breed, and putting them in boxes with other plants, for their better concealment, he found means to get them away as botanic this quantity of notice, notwithstanding the prohibitions by which the Spanish Government had endeavoured to hinder their exportation; and being afterwards driven by a violent storm into the bay of Campeachy, he there found, and added to his collection, a living Cácius, of a species which was capable of nourishing the fine domesticated cochineal. After which, departing for St. Domingo, he arrived safely with his acquisitions, on the 25th of September in the same year, at Port-au-Prince." The insects thus introduced succeeded so well, that, in ten or twelve sately with his acquisitions, of the 25th of September in the same year, at Port-al-Prince." The insects thus introduced succeeded so well, that, in ten or twelve years, St. Domingo became a powerful rival to Mexico in the production of the cochineal; but, during the political troubles of St. Domingo which followed the French Revolution, the plantations were destroyed. The value of the cochineal exported from Mexico is said by Humboldt to be about £500,000 annually. It is the female insect only from which the dye is taken; and the male insect has



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DECEMBER.

THE SUN is situated south of the Equator, and on the 22nd day attains his extreme south position. From the 23rd day he is moving northward. He passes from the sign Sagittarius to Capricornus, completing the tropical year, on the 22nd day, at 3h. 38m. Am., having been in the former sign 29 days, 12 hours, and 3 minutes. On the 1st day he is 93,636,000 miles from the Earth; and this distance decreases to 93,412,000 miles by the 31st.

The Moor enters Libra on the 1st; Scorpic on the 2nd; Ophiuchus on the 3rd; Sagittarius on the 5th; Capricornus on the 7th; Aquarius on the 9th; Pisces on the 11th; Ceus on the 12th. She is near Pisces, Cetus, and Aries till the 16th, on which day she enters Taurus; crosses the Milky Way on the 19th; Gemini on the 19th; Cancer on the 21st; Leo on the 22nd; Virgo on the 24th; Libra on the 28th; and Ophiuchus on the 30th.

She is above the horizon when the Sun is Lelow, during the morning hours, from the 17th to the 25th; and, during the evening hours, from the 6th to the 18th.

from the 17th to the 25th; and, during the evening hours, from the 6th to the 18th.

She reaches an extreme south position on the 5th; crosses the Equator on the 13th, going northward, and reaches an extreme north position on the 20th; then begins to move southward; crosses the Equator on the 26th; and almost reaches an extreme south position on the last day.

She is near Mars and Mercury on the 3rd; Venus on the 5th; Saturn on the 18th; Uranus on the 14th; Jupiter on the 26th; and Venus on the 31st.

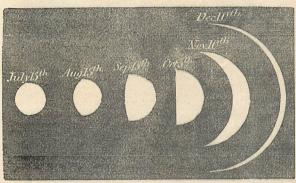
Mercurx moves on the boundaries of Scorpio and Ophiuchus to the 7th; and he is in Sagittarius from the 8th to the end of the year.

He sets with the Sun for the first few days; and he is an evening star towards the middle and end of the month. He sets, on the 15th, at 4h. 14m.; and on the last day at 5h. 23m. The Sun sets on these days 25m. and 1h. 25m. respectively before the planet sets. He sets, throughout the month, nearly midway between the S.W. by W. and the S.W. points of the horizon. He moves eastward among the stars during the month; is near the Moen on the 3rd; and Venns on the 15th. His path in the heavens till the 13th of this month is shewn in the diagram in last month; after this time, his rapidity of motion towards the east continues about the same; on the 15th, he reaches his lowest point; and after this time his motion is towards the Equator, or upwards.

Venus is in the constellation Sagittarius till the 22nd; and in that of Scorpio till the 23rd.

the 23rd.

TELESCOPIC APPEARANCE OF VENUS EROM JULY TO DECEMBER, 1850.



Scale, 40 seconds of arc to one inch.

She is an evening star at the beginning of the month; and sets, on the 1st, at 5h. 4m. p.m.; and, on the 18th, at the same time as the Sun, about midway between the S.W. by W. and S.W. points of the horizon. She is moving slowly westward among the stars; is near the Moon on the 5th; Mercury on the 12th; Mars on the 20th; and the Moon again on the 31st. She is in inferior conjunction with the Sun on the 16th. Her path in the heavens is shewn in the diagram of last month; and her telescopic appearance at the beginning of the month is shewn in the above engraving; towards the end of the month her appearance will be the same as at the beginning of the month, except that the crescent will be in the apposite direction. be in the opposite direction.

Mars is in the constellation Scorpio till the 18th; on this day he passes into

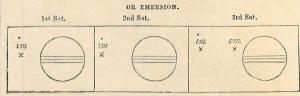
Sagittarius.

He rises and sets throughout the month very nearly at the same time as the Sun rises and sets; and he is, therefore, unfavourably situated for observation. He is moving eastward among the stars; is near the Moon on the 3rd, and Venns on the 20th. His altitude above the horizon when he souths, on the 1st, is 16°_3 ; and on the last day is 14°_4 nearly.

JUPITER is in the constellation Virgo throughout the month. He rises, on the 1st, at 2h. 48m. A.M.; and, on the that day, at 0h. 16m. A.M., midway between the E. and the E. by S. points of the horizon. His altitude on southing, on the 1st, is 33° ; and, on the last day, is 31°_2 . He moves lowly eastward among the stars, and is near the Moon on the 26th. His path in the heavens is shewn in the diagram in May.

JUPITER'S SATELITES.—A few eclipses are visible. The relative position of the Satellites to Jupiter at the instant of the eclipse is shewn in the annexed diagram, as viewed through an inverting telescope.

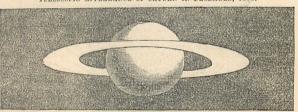
RELATIVE POSITION OF EACH SATELLITE TO JUPITER AT THE TIME OF IMMERSION



SATURN is in the constellation Cetus throughout the month.

Saturn is in the consideration Cetos throughout the month. He is an evening star; and sets, on the last, at 2h. 40m. a. m.; and on the last day at 42m. after midnight. He souths at an altitude of $41^{\circ}\frac{3}{4}$ nearly. He is almost stationary among the stars, and is near the Moon on the 13th. His position in the heavens is shewn in the diagram in September. The ring has opened a good deal during the year; and the telescopic appearance of the planet is shewn in the annexed diagram.

TELESCOPIC APPEARANCE OF SATURN IN DECEMBER, 1850.



Scale, 20 seconds of arc to one inch.

URANUS is in the constellation Pisces throughout the month. He sets, on the 1st, at 3h. 58m. a.m.; and, on the 31st, at 2h. 1m. a.m. On the 15th, he souths at 8h. 3m. r.M., at an altitude of $48^{\circ}\frac{1}{4}$. He is near the Moon on the 14th.

NEPTUNE sets, on the 1st, at 10h. 54m. P.M.; and, on the last day, a

ON THE APPARENT MOTIONS OF THE SUN, MOON, AND PLANETS (Concluded from page 45.)

After a few days more, their apparent motion is in the opposite direction, or from After a few days more, their apparent motion is in the opposite direction, or from east to west. In this case the motion is said to be retrograde; this movement is slow at first, but is continually increasing in velocity till the planet (Mercury or Venus) is in inferior conjunction; or, in the case of the superior planets, in opposition: it then gradually decreases, till the planet becomes stationary a second time; after which it begins to move from west to east, or to have direct motion, as before, and proceeds to pass through another series of similar motions. The retrograde motion is not of long continuance.

The general phenomena presented by the motions of the planets may be briefly stated to be as follows:—That, through the greater parts of their orbits, they move from west to east—that is, from the time of reaching their western elongation or quadratures, to the time of reaching their eastern extremes; having been in conjunction with the Sun in the meantime, becoming stationary, then moving from east to west, and forming at every succeeding opposition a kind of loop. (See the various diagrams.)

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NOTES ON NATURAL HISTORY.—DECEMBER.

In December, the robin redbreast and the wren are almost the only birds that are found cheerfully hopping about near dwelling-houses. The robin, in fact, becomes more familiar at this season; and, as Thomson beautifully expresses it.

The redbreast, sacred to the household gods. The redbreast, sacred to the household gods, Wissly regardful of th' embroiling sky, In joyless fields and thorny thickets leaves His shivering mates, and pays to trusted man His annual visit. Half afraid, he first Against the window beats; then brisk alights On the warm hearth; then, hopping o'er the floor, Eyes all the smiling family askance, And pecks, and starts, and wonders where he is: Till, more familiar grown, the table crums Attract his slender beak.

In Italy, Mr. Waterton informs us, the robin redbreast is used as food ; and he says, in the bird-market near the Rotunda, at Rome, he has counted more than

says, in the bird-market near the Rotunda, at Rome, he has counted more than fifty robin redbreasts lying dead on one stall.

The fearful cry of the owl sounds more alarming in winter than at any other season; and the form of the barn owl flitting through the leafless trees has a more striking and ghost-like appearance in winter than it ever can have in summer. "The characters and appearance of owls," says Mr. Yarrell, "are so singular and so peculiar, that, once having seen them, they are not readily forgotten. They have but little external beauty of form. The head is large, the expression grotesque, and the body bulky in appearance, though the plumage is soft and downy. Unlike the falcons, which hunt for their food by day, the owls seek their prey during the twilight of morning and evening, and probably during the greater part of the night, if the state of the moon or the atmosphere affords sufficient light for the purpose. From this habit of flying by night, the singular appearance of the bird produced by the arrangement of the feathers of the face, forming a broad circular disk, a peculiar hollow tone of voice, unlike that of any other bird, and the additional circumstance of most of the species selecting ivy-covered ruins of sacred edifices as places of resort, from the solitude and

other bird, and the additional circumstance of most of the species selecting ivycovered ruins of sacred edifices as places of resort, from the solitude and
protection the character of such remains afford, owls have been considered by
the superstitions as birds of darkness and ill-omen, and by some even as
messengers of death."

The little Italian owl, or civetta, is much prized,
Mr. Waterton tells us, "by the gardeners of Italy,
for its uncommon ability in destroying insects,
snails, slugs, reptiles, and mice. There is scarcely
an out-house in the gardens and vineyards of that
country which is not tenanted by the civetta. It is
often brought up tame from the nest; and in the
month of September is sold for a dollar to sportsmen who take it with them in their excursions



the Mediterranean it is very abundant; and Mr. Spence, the well-known entomologist, has thus recorded its summer habits in the Magazine of Natural History:—"This owl, which in summer is very common in Italy, is remarkable for the constancy and regularity with which it ulters its peculiar note or cry. It does not merely 'to the moon complain' occasionally, but keeps repeating its plaintive and monotonous cry of 'Kew, kew' (whence its Florentine name of Chiù, pronounced almost exactly like the English letter Q; in the regular intervals of about two seconds, the livelong night; and till one is used to it nothing can well be more wearisome. Towards the end of April, 1830, one of these owls established itself in the large Jardin Anglais, behind the house where we resided at Florence; and, until our departure for Switzerland, in the beginning of June, I recollect but one or two instances in which it was not constantly to be heard, as if in spite to the nightingales which abounded there, from nightfall to midnight (and probably much later), whenever I chanced to be in the back part of the house, or took our friends to listen to it, and always with precisely the same unwearied cry, and the intervals between each as regular as the ticking of a pen dulum."

pen dulum."

At this gloomy season of the year every flower is valuable; but the Christmas rose, which generally appears in flower about this time, is valuable not only from the absence of other flowers, but for its own intrinsic merits. It is a large, handsome, cup-shaped flower, looking like a single rose, and being either white or a very pale pink; and though, in the open air, the delicate texture of its flowers is often injured by the frost, or melting snow which so frequently covers the ground at the dreary season when it appears, yet, when grown in a sheltered place, or when the weather chances to be mild, it is as ornamental as any of the flowers of summer. It is a species of hellebore, and its botanic name is Helleborus niger (or the black hellebore), from the black skin which covers its fleshy underground stem, or root, as it is commonly called, though there are attached to this fleshy substance abundance of the real or fibrous roots. The plant is used in medicine, but it is poisonous when taken to excess; and, in fact, its very name of hellebore is taken from two Greek words, signifying deadly food. There are several kinds of hellebore, but the Christmas rose is by far the most ornamental.

The fragrant coltsfoot (Tussildgo fragrans) is another

The fragrant coltsfoot (Tussildgo fragrans) is another plant which flowers about Christmas; and it is not only ornamental, but very fragrant. All the kinds of coltsfoot



CHRISTMAS ROSE.

are considered efficacious in colds and coughs; and, in fact, the Latin name

of the genus is derived from tussis, a cough.

Among the few other plants in flower at this season may be mentioned the Among the few other plants in flower at this season may be mentioned the curious variety of hawthorn called the Glastonbury thorn, which is said always to flower exactly on Christmas Day. Of course, this is not the case; but it is a fact that the plant blossoms again in December, though it has ripe fruit on it from its previous blossoming at the ordinary season in May. The legend is, that, in the ancient times, Glastonbury was situated on an island called Avalon; the waters that surrounded it, and which consisted of a lake communicating with the sea, being now dried np, though where the lake formerly was is still marshy ground. Joseph of Arimathea is said to have come to Britain with his disciples, to preach the Gospel, in the year 36; and he having landed on the isle of Avalon, struck his stick into the ground, which immediately took root, budded, and blossomed, being on the Christmas Day; and, since that time, the plant has always budded and blossomed on Christmas Day. The Glastonbury thorns, which are now common in every part of England, are all taken from an original stock, still existing within the ruins of Glastonbury Abbey; but it is said that there is another in the neighbourhood, which is much older than the one growing in the ruins, and which blossoms about the same time.

In the New Forest there is an oak which sends forth its leaf-buds about the

that there is another in the neighbourhood, which is much older than the one growing in the ruins, and which blossoms about the same time.

In the New Forest there is an oak which sends forth its leaf-buds about the middle of December, and which, on Christmas Day, has frequently several leaves expanded. They do not, however, long remain, as the country people generally assemble on the Christmas morning and strip the tree of every leaf they can find. The tree is called the Cadenham Oak, and it is said by some to be the identical tree against which the arrow of Tyrrel glanced when it killed William Rufus; as, in the account given by Camden of the accident, he expressly mentions the early vegetation of the tree which was the occasion of the accident. According to other authors, however, it appears that there is another tree in the Forest which vegetates at the same time as the Cadenham Oak, and which is close to the monument of Rufus. There was, formerly, another very remarkable tree in the New Forest, from the root of which strange noises, like fearful groans, used to issue in the month of December, particularly when the weather was clear and frosty. The tree was a young and vigorous elm; and the groaning, which was never heard but in the depth of winter, was heard by thousands. It was observed, however, that the tree did not groan when the weather was wet, but only when it was clear and frosty. At length the owner of the tree, a gentleman of the name of Forbes, after trying several experiments, bored a hole in its trunk. "After this it never groaned. It was then rooted up, with a further view to make a discovery; but still nothing appeared which led to any investigation of the cause. It was, however, universally believed that there was not trick in the affair, but that some natural cause really existed, though never understood."

Almost all the invests which live through the winter are in a torid stafe at

no trick in the affair, but that some natural cause really existed, though never understood."

Almost all the insects which live through the winter are in a torpid state at this season, and most of the moths and butterflies are dead, having left their eggs secured in various ways, so that they may be enabled to bear the cold of winter, and be ready to be hatched in the spring. Thus, the eggs of the lackey-moth, to use the words of Messrs. Kirby and Spence, "are packed as closely as possible to each other, and the interstices are filled up with a tenacious gun, which soon hardens the whole into a solid mass, almost capable of resisting a penknife." The female of the gipsy-moth also crowds her eggs together as closely as she possibly can, and when she has formed them into an oval mass, she covers them with a warm coating of hairs plucked from her own body, which she makes so thick, and fixes on so firmly, as to render the covering equally impervious to cold and wet. Even the Aphis coats her eggs over so as to make them appear perfectly black; and the beetles generally bury theirs to a considerable depth in the ground, instinct teaching them that the frost, which destroys everything exposed to the atmospheric air, never penetrates more than a few inches into the ground. In some few cases moths hybernate, like beetles, in a perfect state, and the December Moth is found occasionally seen at this season, and it is so torpid that it will suffer itself to be taken in the hand without making any effort to escape. Even when a finger is put near it, it only moves its head and antennæ a little, without attempting to fly away. A moth of this species was observed by the Rev. Leonard Jenyns to remain in a torpid state upwards of seven month. The most remarkable insect, however, seen at this season, is the one known in the south of Scotland by the name of the Devil's Butterfly; and which, in various parts of England, is called the Witch's Butterfly; and which, in various parts of England, is called the Witch's Butterfly; and w understood.

nėssa úrticæ); and its caterpillars, which feed on the nettle, are nearly black, with four bright yellow stripes, two along the back and one on each along the back and one on each side, the whole body being covered with fine branched spines. The pupa of this caterpillar is very curious, looking like a lady with an old-fashioned hood, and being always suspended by a thread. There appear to be at least two broods of this insect every year—one being hatched in June, and the other in the latter end of October. one being hatched in June, and the other in the latter end of October. It is very common in the south of Europe, and particularly in Italy. The common house-fly is subject to rather a singular disease at this season; and files are often found withing to the lower of juy, and

sticking to the leaves of ivy and

SMALL TORTOISE-SHELL BUTTERFLY.

season; and files are often found stocking and there are the files, though they appear to be alive, being quite dead, and other evergreens—the files, though they appear to be alive, being quite dead, and adhering to the leaf by a kind of cottony mildew, which is, in fact, a peculiar sort of fungus. The Rev. L. Jenyns, mentioning this singular fact, adds, that it seems owing to the chill and dampness of an autumnal night coming on suddenly as at this season the temperature of the air at sunset, especially if the sky be clear, falls rapidly. The Rev. M. J. Berkeley mentions that this fungus, no doubt, attacks the fly while living, though it is not fully developed till after death. The reason why it prevails in autumn, he adds, is that the dampness of the air at that season is favourable to the growth of all kinds of mould, and that the suddenness with which flies appear to be attacked with it is merely the rapid growth of the fungus, from the state of the atmosphere. Gold fish are frequently attacked at the beginning of winter with a white downy matter, similar to that found on flies, and which generally proves equally fatal. The nests of wasps may be sought for at this season and destroyed, as wasps are frequently found in them in a torpid state from the cold, and nearly every wasp that survives the winter will form a nest the following summer; the economy of wasps being different from that of bees, and each old female wasp forming a new colony of her own. of her own.

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and y.			y 11	5 2 2	112	117	. 11		-==	111 211	-==	111	112	222
Month and Day.			January	February	March	April	May	June	July	August	Sept	October	Novem.	Decem.

the Day, at all those Towns and Villages which are not mentioned at the head of this Table, will be the same as those of that Town whose name is mentioned, and which is situated the nearest to them. The Numbers in this Table will answer for many Years.

52

D,	nde.	Length	Day.	h. m. 6 12 6 40 7 14	8 4 8 54 9 44	10 26 11 18 12 10	13 10 14 0 14 52	15 42 16 30 17 14	17 50 18 14 18 24	18 14 17 52 17 20	16 32 15 48 14 58	14 0 13 10 12 14	11 26 10 34 9 44	8 47 7 56 7 12	6 40 6 12 6 10 6 10	lich is
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	iock, Porte	Sun.	S. Set	469 33 P. P. S.	7 44 44 44 20 5	2 2 3 5 5 6 5 6	31 6 3 6 36 7	11 7 46 8 27 8	10 8 0 8 58 9	5 9 17 8 34 8	56 8 16 7 38 7	2 6 24 6 46 6	6 5 28 5 51 4	18 40 3 3 3	22 38 38 38 48 3 49 3	those
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nu	Peterhca Banff, Elgin,	S	Rises.	ь. 8 38 8 26 8 26	8 5 7 42 7 19	6 57 6 29 6 2	5 32 5 4 4 37	4 13 3 49 3 31	3 14 3 5 3 2	3 21 3 38 3 38	3 58 4 18 4 40	5 3 5 25 5 46	6 27 6 27 6 50	7 15 7 38 8 0	8 34 8 34 8 44 8 45	Table, many
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1 5	Uberdeen, Inverbervie, Ura, Kincardine, Kelj Laggan,	T	Sets.	427 1	25 48 11	5 30 5 51 6 12	6 36 6 57 7 19	7 39 8 0 8 18	8 36 8 49 8 55	8 53 8 45 8 31	8 11 7 49 7 25	6 56 6 29 6 0	5 34 5 7 4 41	4 14 3 53 3 35	3 22 3 16 3 25	hich are not mentioned at the head of this Table, The Numbers in this Table will answer for many
	Aberden, Ura, Kinc La	Sun.	Rises. S	41. h. 35. 33. 44. 23. 44. 44. 44. 44. 44. 44. 44. 44. 44. 4	3 4 40 4 17 5	29 29 29	32 39	15 52 34	18	3 13 3 25 3 41	4 21 4 41	5 4 5 25 5 46	6 6 6 6 6 6 49	7 14 7 35 7 57	8 16 8 30 8 40 8 41	at all those Towns and Villages which are not mentioned at the head situated the nearest to them. The Numbers in this Table will ans
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AND	Berwick, Haddington, Edinburgh, Linlitagow, Glasgow, Stirling, Dun- bar, Leith, Greenock,		Sets.	3 33 48 4 6	4 30 4 51 5 14	5 32 5 52 6 12	6 35 6 55 7 16	7 36 7 55 8 12	8 29 8 41 8 47	8 45 8 39 8 26	8 7 7 46 7 22	6 54 6 28 6 0	5 35 5 9 4 44	4 18 3 57 3 40	3 22 3 23 3 31	all those Towns and Villages wistuated the nearest to them.
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TIMES	Sunderland, Shields, Newcastle, Carlisle, Annan, Dumfries, Wig- town, Kirkudbright, Carrickfergus, Antriny, Londonderry,	Length	Day.	77. T	8 9 2 10	1212	2224	15 15 16	16 17 17	17 16 16 16	15 4	12 13	199	0.00		the Ler
	lerland, Shi castle, Gar un, Dumfries, ,, Kirkudb ickfergus, An Londonderry.	Sux.	Sets.	b. m. 3 40 3 54 4 11	4 34 4 55 5 16	5 33 5 52 6 12	6 33 6 53 7 13	7 31 7 50 8 7	8 23 8 34 8 40	8 38 8 32 8 20	8 2 7 41 7 19	6 52 6 27 6 0	5 36 5 10 4 46	4 22 4 22 3 46	3 25 35 38 38 38	5, and
THE	Sunderland, Newcastle, Annan, Dun town, Ki Carrickfergu	1/2	Rises.	h. m. 8 28 8 22 8 13	7 54 7 33 7 12	6 53 6 28 6 2	5 35 5 9 4 45	4 23 4 2 3 45	3 31 3 24 3 22	3 28 3 28 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4 10 4 29 4 47	5 27 5 27 5 46	6 24 6 24 6 44	7 6 7 26 7 46	8 3 8 17 8 26 8 26	-setting
ING	haven, by, N. hitby, h, Bel. Sligo, n.	Length	Day.	h. m. 7 18 7 38 8 4	8 43 9 25 10 7	10 42 11 26 12 10	12 56 13 42 14 25	15 4 15 44 16 17	16 46 17 2 17 11	17 4 16 48 16 24	15 48 15 9 14 30	13 42 12 58 12 14	11 32 10 48 10 4	9 19 8 39 8 4	7 38 7 18 7 10 7 16	ung pu
SHOWING	Scarbro', Whitehaven, Stockton, Appleby, N. of Isle of Man, Whitby, Keswick, Penrith, Bel- fast, Clogher, Silgo, Ballyshannon.		Sets.	h. m. 3 43 4 14 4 14	4 35 4 57 5 18	5 34 5 53 6 12	6 32 6 52 7 12	7 29 7 48 8 5	8 30 8 37 8 37	8 35 8 29 8 18	7 59 7 39 7 18	6 51 6 26 6 0	5 36 5 11 4 47	4 24 3 48	3 3 3 3 3 4 1 3 3 4 1 1 3 3 3 3 3 3 3 3	ising a
	Scarbro', Stockton, of Isle of Keswick, fast, Cl	Sun.	Rises,	19 10 10	32	27 27 27 2	36	25 44	34 26 26	31 54	12 30 48	28 46	4 8 8	24 44	8 8 14 0 8 25 23 4 0	Sun r
TABLE,			H	1112 8 8 8 P	21 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1 6 11 6 21 6	1 5 11 5 21 4 4	11 4 4 21 3	11 3 3 2 3	11 3 21 3	1 12 12 4 4 4	2112	11 6 21 6	11 11 11 11 11 11 11 11 11 11 11 11 11	## ## ## ## ## ## ## ## ## ## ## ## ##	The times of Sun-rising and Sun-setting, and the Length of the Day,
A TA	Month and Day.			January	February	March	April	Мау	June	July	August	Sept	October	Novem.	Decem.	The ti

APPEARANCE OF THE HEAVENS

ON JANUARY 1, 1850, AT 8H. P.M., AS SEEN NEAR LONDON.

EAST OF THE MERIDIAN.

N.E. by N.—The Great Bear, 35° high; the Pointers about 32° high.

N.E.—Leo Minor, 15° high; above which are the fore-legs of the Great Bear.

N.E. by E.—Lynx, 45° high.

E.—The Crab, 20° high; Pollux, 34°; Castor, 38°; Beta Aurigæ, 62°; and Capella, 67° high.

E. by S.—Procyon, 17° high. S.E. by E.—Sfrius, 6° high; Alpha Orionis, 33° high; Mars, 42°; and Beta Tauri, 44° high. S.E.—The three stars in the belt of Orion, 27°; Gamma Orionis, 36° high; above

which is the Bull

S.E. by S.-Rigel, 24° high; Aldebaran, 50° high; above which, the legs of Perseus.
S. by E.—The Pleïades, 61° high.

ON THE MERIDIAN.

A little above the north horizon is a part of Draco; Ursa Minor, Polaris; above which, Camelopardalus; Perseus, near the zenith; Alpha Persei, 4° east of the meridian; and Beta Persei, 2° west; below these, the Fly, the hinder-part of the Ram, the head of the Whale; and Alpha Ceti, 42° high.

WEST OF THE MERIDIAN.

S.S.W.—Alpha Arietis, 61° high; and Cetus, 23° high. S.W. by S.—Hinder part of the Whale, 15° high; and Gamma Andromedæ, 15° from the zenith.

S.W.-Saturn, 27° high. S.W. by W.—Gamma Pegasi, 40° high; and Beta Andromedæ, 63° high. W.S.W.—Alpha Andromedæ, 53° high; and Alpha Pegasi, 32° high. W.—Beta Pegasi, 42° high; Andromeda, 20° from the zenith. W. by N.—Delphinus. N.W. by W.—Alpha Cygni, 33° high; and Alpha Lyræ, N.W. 10° high. N.N.W.—Beta and Gamma Draconis, 18° high.

APPEARANCE OF THE HEAVENS ON FEBRUARY 1,"1850, AT'8H. P.M.

EAST OF THE MERIDIAN.

N.N.E.—The Northern Crown rising. N.E. by N.—The tail, back, and the hinder part of the Great Bear; and near the zenith the head of the Lynx; Eta of the Great Bear, 20°; and Zeta, 26° high.
Near N.E.—Delta of the Great Bear, 34°; Alpha, 44°; Gamma, 34°; and Beta,

Ale high.
E.N.E.—Leo Minor, 30°; and Lynx, 60° high.
E.—Regulus, 19° high; above which, Leo; and, higher up, the legs of the

E.S.E.-Hydra, 20°; Crab, 45°; Gemini, 55°; Pollux, 53°; and Castor, 57° E.G.B. - high.
S.E.—Procyon, 35° high.
S.E.—Sirius, 20° high.
S. by E.—Alpha Orionis, 44° high.
ON OR NE

ON OR NEAR THE MERIDIAN.

Starting from the N., at a little west of the meridian Beta and Gamma Draconis, 15° high; above which, the Little Bear, Polaris, Camelopardalus, Auriga in zenith; south of the venith, Taurus; lower, and a little west, Orion; still lower, the Hare, at the heigh of 20°; near the meridian, Rigel, 30°; three stars in Orion, 31°; Gamma Orionis, 44°; Aldebaran, a little west of meridian, 54°; Mars, a little east of the meridian, 64° high; Beta Tauri, near Mars, 66° high: Capella is near the zenith.

WEST OF THE MERIDIAN.

Near S.W. by S.—Alpha Ceti, 35°; and the Pleïades, 58° high. S.W.—Cetus, 15° high; above which, the Ram; higher still, the Fly; and Persons near the zenith.

Persens near the zenith.

W.S.W.—Saturn, 9° high.

W. by S.—Gamma Pegasi, 22°; and Gamma Andromedæ, 58° high.

W.—Alpha Andromedæ, 31°; and Beta Andromedæ, 46° high.

Near W. by N.—Alpha Pegasi, 12° high.

Near W.N.W.—Beta Pegasi, 23° high.

Near N.N.W.—Alpha Cassioneiæ, 51°, and Beta Cassiopeiæ, 48° high.

N.W. by N.—Alpha Cygni, 30° high; and Alpha Lyræ is near the horizon in the N.N.W.

APPEARANCE OF THE HEAVENS ON MARCH 1, 1850, AT 9H. P.M.

· EAST OF THE MERIDIAN.

N. by E.—Alpha Lyræ rising. N.N.E.—Gamma Draconis, 15°; Beta Draconis, 18°; and the Little Bear,

N.N.E.—Gamma Dracoms, 10°, Section 1.

Near N.E.—The Northern Crown rising.

N.E. by E.—Bötes, 17° high; above which, parts of the Great Bear, Eta, Reislon, Delta, and Gamma of which are 36°, 42°, 46°, 52°, and 54° high, respectively; higher still, Beta, 61° high; and Alpha, N. of Beta, 61° high. Near E.N.E.—Arcturus, 11°; in the east the Virgin rising; above which Coma Berenices; and higher still, Leo Minor.

Near E.S.E.—Beta Leonis, 32° high; Jupiter, 16° high.

Near S.E.—Regulus, 41°; and Gamma Leonis, 48° high.

S.S.E.—Alpha Hydræ, 27° high.

The body of the Unicorn, 35° high; above which is the Little Dog, a little W. of meridian is Procyon, 44° high; above which Gemini, with Pollux near the meridian, 67° high, and Castor a little more West, 70° high; between this point and the zenith is the Lynx; N. of the zenith is the head of the Great Bear; and near the N. horizon is the body of the Swan.

WEST OF THE MERIDIAN.

Near S.S.W.—Sirius, 20° high; a little more W. Beta Canis Majoris, 18°. S.W. nearly.—Rigel, 21°; three stars in Orion, 30°; Gamma Orionis, 35°; Alpha Orionis, 39° high; and Mars, 57° high. W.S.W.—Aldebaran, 36°; and Beta Aurigae, 69° high. W. by S.—Alpha Ceti, 13°; the Pleïades, 36°; and Capella, 64° high. W. by N.—Alpha Arietis, 19°, and Beta Persel, 42° high. N.W. by N.—Alpha Andromedæ, 6°; Beta Andromedæ, 19°; Gamma Andromedæ, 32°; Gamma Pegasi, 48°; and Beta Cassiopeiæ, 30° high.

APPEARANCE OF THE HEAVENS ON APRIL 1, 1850, AT 9H. P.M.

EAST OF THE MERIDIAN.

N. by E .- Alpha Cygni, 5°. N. by E.—Alpha Cygni, 5°.

N.E. by N.—The Harp rising; Alpha Lyrae, 8° high; above which, a little to the left, is Gamma Draconis, 24°, and Beta Draconis, 26°; higher up, the Little Bear.

N.E. by E.—Zeta, Epsilon, Delta, Gamma, and Beta of the Great Bear, 57°, 61°, 69°, 71°, and 79° high, respectively.

Near N.E. by E.—The Northern Crown, 25° high.

E.—Alpha Serpentis, 5°; and Arcturus, 30° high.

S.E. by E.—Spica Virginis, 11°.

S.E.—Beta Leonis, 47° high.

S.E. by S.—Jupiter, 52° high.

ON AND NEAR THE MERIDIAN.

Alpha Hydre, 31°; Regulus, 41°; higher up, the head of the Lion, the forelegs and body of the Great Bear, with the Pointers, about 10° east of the meridian; and below Polaris is Cepheus.

WEST OF THE MERIDIAN.

S.W.—Sirius, 11°; Procyon, 38° high; above which, the Crab. Near W.S.W.—Rigel, 6°; Orion's belt, 15°; a little west, Gamma Orionis, 19°; Alpha Orionis, 25°; Gamma Geminorum, 38°; Castor, 58°; a little west, Pollux, higher up, the body of the Lynx, and the head of the Great Bear: Mars, 56°; high.

47° high.
W.—Aldebaran, 19°; Beta Tauri, 36°.
W. by N.—The Pleïades, 18°; Beta Aurigæ, 53°; and Alpha Arietis, setting.
W.N.W.—Capella, 46° high.
N.W. by W.—Beta Persei, 25° high; a little to the north, Alpha Persei, 33° high.
Near N.W.—Beta Andromedæ, 7°; Gamma Andromedæ, 18°; and N.N.W.,
25° high, Cassiopeiæ.

APPEARANCE OF THE HEAVENS ON MAY 1, 1850, AT 10H. P.M.

EAST OF THE MERIDIAN.

N. by E.—Beta Cassiopeia, 20° high.

N.E.—Alpha Cygni, 20° high.

N.E. by E.—Gamma Draconis, 43° high; and Beta Draconis, 47° high.

E.N.E.—Alpha Lyra, 30° high.

E. by S.—Alpha Ophiuchi, 20°; and Alpha Herculis, 25° high.

E.S.E.—The Northern Crown, 40° high.

S.E. by E.—Alpha Serpentis, 34° high.

S.E. by E.—Alpha Serpentis, 34° high.

S.E. by S.—Beta Libræ, 22°; and Arcturus, 54° high.

S. by E.—Spica Virginis, 28° high.

ON AND NEAR THE MERIDIAN.

Cassiopeia; above which the middle star in the tail of the Bear, with Zeta 5° to the E., Delta 2° to the W., and Alpha, Beta, and Gamma of the Great Bear within 13° W. of the Meridian, and all near the zenith.

WEST OF THE MERIDIAN.

S.S.W.—Beta Leonis, 43°.
Near S.W.—Alpha Hydræ, 17°; Regulus, 40°; Gamma Leonis, 49° high; and Jupiter, 42° high.
W.—Procyon, 70° high; Mars, 29° high.
W. by N.—Gamma Geminorum, 12°; Pollux, 32°; and Castor, 32° high.
N.W. by W.—Beta Tauri, 10°.
N.W.—Capella, 23°; Beta Aurigæ, 27°; above these, and near the zenith, the Great Bear. Near N.N.W.—Beta Persei, 6°; and Alpha Persei, 16° high.

APPEARANCE OF THE HEAVENS ON JUNE 1, 1850, AT 10H. P.M.

EAST OF THE MERIDIAN.

N.N.E.—Beta Cassiopeiæ, 24° high.
N.E. by E.—Alpha Cygni, 35° high.
E.N.E.—Gamma Draconis, 60°; and Beta Draconis, 64° high.
E. by N.—Alpha Lyræ, 48°.
E. by S.—Alpha Aquilæ, 15° high.
Near S.E.—Alpha Ophiuchi, 40°; and Alpha Herculis, 44° high.
S.S.E.—Northern Crown, 65° high.

ON OR NEAR THE MERIDIAN.

Perseus near the north horizon, Alpha Draconis a little north of zenith, Arcturus 58° high, and 10° W. of the meridian; and Alpha Libræ near the meridian, at the height of 24°. WEST OF THE MERIDIAN.

S.S.W.—Spica Virginis, 25° high.
S.W. by W.—Beta Leonis, 39°; and Jupiter, 28° high.
W. by S.—Regulus, 23° high; and Gamma Leonis, 30° high.
W. by N.—Pollux, 12° high; Castor, 13°; and Mars, 18° high.
N.W. by N.—Beta Aurigæ, 14° high; Venus setting.
N.N.W.—Capella, 12° high; above which is the Great Bear.

APPEARANCE OF THE HEAVENS ON JULY 1, 1850, AT 10H. P.M.

EAST OF THE MERIDIAN.

N. by E.—Alpha Persei, 12° high.
N.E. by N.—Gamma Andromedæ, 10°; and Beta Cassiopeiæ, 33° high.
N.E. by E.—Alpha Andromedæ, 10° high.
E. by E.—Alpha Andromedæ, 10° high.
E. by N.—Alpha Pegasi, 9°; and Alpha Cygni, 51° high.
E. by N.—Alpha Pegasi, 9°; and Alpha Cygni, 51° high.
E. and near the Zenith.—Gamma and Beta Draconis.
S.E. by E.—Alpha Aquilæ, 34°; and Alpha Lyræ, 69° high.
S. by E.—Alpha Ophiuchi, 41° high; and Alpha Herculis, 49° high.

ON OR NEAR THE MERIDIAN.

Capella near the horizon, and due N.; and Antares 4° W. of the meridian, and 12° above the S. horizon.

WEST OF THE MERIDIAN.

S. by W.—Beta Scorpii, 18°.
S.W. by S.—Alpha Libræ, 18°; Beta Libræ, 26°; and Alpha Serpentis, 45° high; the Northern Crown, 65° high.
S.W. by W.—Spica Virginis, 14°; and Arcturus, 46° high.
W.—Beta Leonis, 22° high; Jupiter, 10° high.
W. by N.—Regulus and Mars nearly setting.
N.W.—Great Bear, 48° high; and Castor is setting near W. by N.
N.W. by N.—Venus setting.

APPEARANCE OF THE HEAVENS ON AUGUST 1, 1850, AT 10H. P.M.

EAST OF THE MERIDIAN.

FAST OF THE MERDIAN.

Near N. by E.—Beta Aurigæ, 7°; and Capella, 9° high.

Near N.E. by N.—Alpha Persei, 20°; and Beta Persei, 13° high.

Near N.E.—Gamma Andromedæ, 21°; and Beta Cassiopeiæ, 45° high.

N.E. by E.—Alpha Arietis rising.

E.N.E.—Beta Andromedæ, 22° high.

E. by N.—Alpha Andromedæ, 26° high; Saturn will rise within a few minutes.

E.—Gamma Pegasi, 16°; Beta Pegasi, 36°; and Alpha Cygni, 70° high.

E. by S.—Alpha Pegasi, 26° high.

S.S.E.—Alpha Aquilæ, 45° high.

ON OR NEAR THE MERIDIAN.

The Lynx, near the north horizon; Draco, near the zenith; Lyra south of the zenith; Alpha Lyræ being on the meridian: near the zenith, and 5° W. of the meridian, is Gamma-Draconis; and 9° W. is Beta Draconis.

WEST OF THE MERIDIAN.

S.S.W.—Alpha Ophiuchi, 39°; Alpha Hereulis, 40° high. S.W. by S.—Antares, 7°; a little to the right is Beta Scorpii, 10° high. S.W. by W.—Alpha Libra, 6°; and Beta Libra, 16° high. W. by S.—Arcturus, 32° high; the Northern Crown, 43° high. N.W.—The stars in the fail-of the Great Bear, 40° high. N.W.—The Pointers, 35° high.

APPEARANCE OF THE HEAVENS ON SEPTEMBER 1, 1850, AT 9H. P.M.

EAST OF THE MERIDIAN.

N.N.E.—Beta Aurigæ, 9° high; to the right, Capella, 12° high.
N.E.—Alpha Persei, 26° high.
E.N.E.—Alpha Arietis, 14°; Beta Andromedæ, 32° high.
E. by N.—Beta Persei, 20°; Beta Cassiopeiæ, 53° high.
E. by N.—Beta Persei, 20°; Beta Pegasi, 36°; and Alpha Pegasi, 37° high.
E. by S.—Gamma Pegasi, 26°; Beta Pegasi, 36°; and Alpha Pegasi, 37° high.

ON OR NEAR THE MERIDIAN.

Body of the Lynx, Polaris, a little S. of the zenith; and 10° E. of the meridian, Alpha Cygni; 13° W. of the meridian, Alpha Lyræ; Alpha Aquilæ, on the meridian, 47° above the southern horizon.

WEST OF THE MERIDIAN.

S.W.—Alpha Herculis, 42°; Alpha Ophiuchi, 43°; and Alpha Lyræ, 71° high. W.S.W.—Beta Libræ, 7°; and Alpha Serpentis, 23° high. W.—The Northern Crown, 42°; Beta Draconis, 72°; and Gamma Draconis, 74°

W. M.—Arcturus, 20° high.
W. by N.—Arcturus, 20° high.
N.W. by N.—The stars in the tail of the Great Bear, 33° high.
N.N.W.—The Pointers, 30° high.

APPEARANCE OF THE HEAVENS ON OCTOBER 1, 1850, AT 9H. P.M.

EAST OF THE MERIDIAN.

EAST OF THE MERIDIAN.

N.E. by N.—Castor rising.
Near N.E.—Capella, 26°; and Beta Aurigæ, 20° high.
Between E. by N. and E.N.E.—Aldebaran, 7°; Beta Persei, 38°; and Alpha Cassiopeiæ, 64° high.
Near E. by N.—The Pleiades, 18° high; and Gamma Andromedæ, 46° high.
£. by S.—Alpha Ceti, 10°; Alpha Arietis, 33°; Beta Andromedæ, 51° high.
E.S.E.—Alpha Andromedæ, 55° high
S.E. by E.—Saturn, 25° high; and Gamma Pegasi, 43° high form a square, S.E. by E.—Beta Pegasi, 62° high.
S.E. Lapla Pegasi, 51° high.

ON OR NEAR THE MERIDIAN.

The head and fore part of the Great Bear, on the north meridian. A little west of the meridian are the Pointers, and more west are Gamma and Delta of the Great Bear; and still more west, the three stars in the tail. Above Polaris is Cepheus; east of which is Cassiopeia; a little south of the zenith, and 15° west of the meridian, is the body of the Swan, Alpha Cygni being about 10° from the meridian: Aquarius is situated a little south of the Equator.

WEST OF THE MERIDIAN.

S.S.W.—The four stars forming the rhomboidal figure, called Delphinus, 50° high. S.W. by S.—Alpha Aquila, 42° high. W. by N.—Alpha Lyra, 56°; and Alpha, Cygni, 77° high. W.N.W.—The Northern Crown, 15° high; Beta and Gamma Draconis, 53° high. N.W. by W.—Arcturus, setting. N.N.W.—The tail of the Bear, 20° high.

APPEARANCE OF THE HEAVENS ON NOVEMBER 1, 1850, AT 8H. P.M.

EAST OF THE MERIDIAN.

N. by E.—The head of the Great Bear, 20° high.

N. by E.—The head of the Great Bear, 20° high.

N.E. by N.—Castor, 5° high.

N.E. by E.—Beta Aurigæ, 25°; Capella, 32° high.

E.N.E.—Alpha Persei, 47° high.

E.M.E.—Alpha Ceti, 34°; Alpha Arietis, 45°; Beta Andromedæ, 58° high.

E.S.E.—Alpha Ceti, 34°; Alpha Arietis, 45°; Beta Andromedæ, 61° high.

S.E.—Saturn, 34°; Alpha Andromedæ 65°, and Gamma Pegasi 50° high, being the eastern pair of stars forming the square of Pegasus.

ON OR NEAR THE MERIDIAN.

The Pointers nearly on the meridian below Polaris, with Gamma and Delta of the Great Bear about 10° west of the meridian; Cepheus is situated between Polaris and the zenith. Within a few degrees east of the meridian is Beta Pegasi, 64° high; both Alpha Pegasi and Fomalhaut arenear the meridian—the former is 52°, and the latter is 8° high.

WEST OF THE MERIDIAN.

S.W.—Delphinus, 45° high.
S.W. by W.—Alpha Aquilæ, 33° high.
W.—Alpha Cygni, 67°; Alpha Ophinchi, 16° high.
W. by N.—Alpha Lyra, 41°; and Alpha Herculis, 14° high.
N.W. by N.—The Northern Crown, 14°; and Gamma and 18eta Draconis, 14°

N.N.W.—The tail of the Great Bear, 20° high.

APPEARANCE OF THE HEAVENS ON DECEMBER 1, 1850, AT 8H. P.M.

EAST OF THE MERIDIAN.

EAST OF THE MERIDIAN.

N. by E.—Gamma and Delta of the Great Bear, 16° and 19° high respectively.

N.N.E.—Beta and Alpha of the Great Bear, 20° and 25° high respectively.

N.E.—The Lynx, 25°; and higher up, the legs of Camelopardalus.

N.E. by E.—Pollux, 12°; and Castor, 17° high.

E.N.E.—Beta Auriga, 40°; Capella, 46°; and higher up, Perseus.

E.—Alpha Orionis, 13° high; and Medusa's Head, 52° high.

E. by S.—The three Stars in a straight line, and at equal distances from each other, forming the belt of Orion, 10° high; Aldebaran, 32° high.

E.S.E.—The Pleiades, 46° high; Gamma Andromedæ, 73° high.

S.E.—Alpha Ceti, 37°; and Alpha Arietis, 57° high.

ON OR NEAR THE MERIDIAN.

Under the Pole Star is the tail of the Great Bear; above Polaris is Cassiopeia; a little south of the zenith is Andromeda, Beta Andromedæ being almost 5° east of the meridian. Saturn is near the meridian, being 5° east of it, at the altitude of 42°; and near the south horizon is the tail of Cetus.

WEST OF THE MERIDIAN.

WEST OF THE MERIDIAN.

S. by W.—Gamma Pegasi, 50°; and Alpha Andromedæ, 65° high.

S.W. by S.—Alpha Pegasi, 40° high.

S.W.—Beta Pegasi, 60° high.

W. by S.—Delphinus, 30° high; and near this point, at 17° high, is Alpha Aquilæ.

W. by N.—Alpha Cygni, 51° high.

N.W. by W.—Alpha Lyræ, 30° high.

N.W. by W.—Alpha Lyræ, 30° high.

N.W. by N.—The Northern Grown, setting.

The names and relative situations of the principal constellations and stars are given in the preceding description of the heavens at a convenient time on the first day of every month, and very great facilities are thus given to the young astronomer to learn them.

The allitude of the constellation, star, or plenet is to be understood as well.

The altitude of the constellation, star, or planet is to be understood as measured in angular measure, upon a vertical circle, above that point in the horizon which an arc of a circle drawn from the zenith (the point immediately overhead), and passing through or near the objects named, touches the horizon. The measure of this arc, or the angular distance from the zenith to the horizon is 90°; therefore, as all the altitudes are expressed in angular measure, that is, in degrees, whose symbol is °, it will be readily seen that if an object be mentioned as being 10° high, it is above the horizon by one-ninth part of the whole distance from the horizon to the zenith; if 30°, it would be one-third part; if 45°, it would be situated midway between the horizon and zenith.

For any day in the mouth the same description will apply for the stars, and for the planets nearly; only it will correspond to a time earlier each day by a minutes and 56 seconds (4 minutes nearly). Thus, in every month, the description will be the same as on the 1st day of that month.

			1			than	,					Earl	ier	than
						me					1		e Ti	
						1st.								1st.
	2			H.		S.							M.	
On the 2nd	day, at			0	3	56	On the	17th	day.	at.		1		56
3rd				0	7	52		18th				1		52
4th				0	11	48		19th				-		
5th				0	15	44		20th		••		1		
6th					19				**	••		1	14	
		**				40			.,			1	18	40
7th				0	23	36		22nd				1	22	36
8th				0	27	32		23rd				1	26	32
9th				0	31	28		24th						28
10th				0	35	24		25th		••			34	
11th						20		26th	••	••				
12th														20
						16		27th				1	42	16
13th	**				47	12		28th				1	46	12
14th				0	51	8		29th				1	50	8
15th				0	55	4		30th					54	4
16th			-	0	59	0		31et					EE.	0

Thus, on January 16th, at 7h. 1m. P.M., the stars will occupy the same position in the heavens as they will do on January 1st, at 8h. P.M.

The description of the heavens, so far as the stars and constellations are detailed, will be the same nearly, at the same times, on the same days for many years.

TIMES OF THE POLE STAR (POLARIS) BEING ON THE MERIDIAN, OR DUE NORTH, DURING THE YEAR 1850.

THE Pole Star (that which is usually so called) is situated at the angular distance of $1^{\circ}\frac{1}{2}$ from the Pole, and describes a circle at this distance around this point or pole. If we suppose a star there placed, it would appear stationary. The Pole Star not being so placed, it is due north only at such times as in its revolution it is on the meridian, which circumstance takes place twice every day—once when the star is above the pole, and once when it is below the pole. The following are the times, on the 1st day of every month during the year 1850, that the Pole Star is so situated:—

		н.	M	. 8			H.	М.	S.			
Jan.	1 at	6	23	12	A.M.	below the Pole, and at	6	21	13	P.M.	above	the Pole.
Feb.	1 ,,	4	20	53	,,	,,	4	18	55	12		"
March	1 ,,	2	30	29	11	"		28		"		
April					"	William States and Sta		26		"		"
May	1 ,,	10	28	36	"	above the Pole, and at	10	26	38	"	below	the Pole.
June	1 ,,	8	27	1	,,	,,			3	"		"
July	1 ,,	6	29	27	"	,,		27	29	"		
Aug.	1 ,,	4	27	58	,,	"		26		"		"
Sept.	1 ,,	2	26	25	"	11		24		"		"
Oct.					"	Sales and talling the		26		"		"
Nov.	1 ,,	10	24	46		below the Pole, and at		22			ahove	the Pole.
	1 ,,					1		24		"		

From these times those of the meridian passage of the star can be easily calculated for any other day in every month.

DISCOVERY OF ANOTHER SMALL PLANET.

ON April 12, 1849, Signor de Gasparis, of the Observatory of Naples, whilst comparing Steinheil's Star Map for hour XII with the heavens, discovered a Planet: its appearance at this time was that of a small star of the 9th or 10th magnitude.

M. de Gasparis referred the naming of his new Planet to M. Capocci, who has called it Hygeia. (See the monthly notices of the Royal Astronomical Society, Nos. 7 and 8 of the 9th volume, for Ephemerides and Elements.)

CLOG ALMANACK

PRESERVED IN THE CHETHAM LIBRARY, MANCHESTER.

WHETHER the "Clog," of which we here give an Engraving, was originally

Whereher the "Clog," of which we here give an Engraving, was originally left to the Library by the founder, or was presented subsequently by some other person, we have not been able to ascertain. Though unquestionably formed after an ancient Runic type, it is certainly not of great antiquity; and probably not of an earlier date than the time of Humphrey Chetham, who lived in the reigns of James I. and Charles I., and founded the library which bears his name, in 1665. About forty years ago, when a boy belonging to the school usually acted as guide to visitors to the Library, he never failed to draw their attention to the "Clog," as one of the principal curiosities. "This," exclaimed the juvenile Cicerone, "is a Clog Almanack, such as were in use in this country before the invention of printing." Almanacks, or more properly Calendars, of this kind, were used by the Danes,

dars, of this kind, were used by the Danes, Norwegians, and other people of northern dars, of this kind, were used by the Danes, Norwegians, and other people of fnorthern race, at a very early period; and a full account of their various kinds and different names—Rim-stocks, Rune-stocks, Primstaves, Selpiones Runici, and Baculi Annales—are to be found in the "FASTI DANICI" of Olaus, Wormius, printed at Copenhagen, 1643. One of those Calendars, in the form of a walking-stick, was exhibited by Sampson Hodgkinson, Esq., at the meeting of the Archæological Institute, at Lincoln, in 1848; and an engraving of it is given in the LLUSTRATED LONDON ALMANACK for 1849.

Verstegan, in his "Restitution of Decayed Intelligence in Antiquities," 1605, thus speaks of those calendars in his third chapter, "Of the Ancient Manner of Living of our Saxon Ancestors:"—"They used to engrave upon certain squared sticks, about a foot in length, or shorter or longer as they pleased, the courses of the moones of the whole yeare, whereby they could always certainly tell when the new moones full whomes and

whereby they could always certainly tell when the new moones, ful moones, and changes should happen, as also their feschanges should happen, as also their residial days; and such a carved stick they called an Al-mon-aght—that is to say, Al-moon-heed: to wit, the regard or observation of all the moones; and herehence is deryved the name of Almanack."

The two reasy not be supposed to con-

That we may not be supposed to con-

nence is deryved the name of Almanack."

That we may not be supposed to concur in this derivation of Almanack, we merely remark, that "our Saxon ancestors" had no such name for their calendars as "Al-mon-aght;" and that Verstegan's etymology may, with better reason, be termed "All-mon-shine."

Dr. Robert Plot, in his "Natural History of Staffordshire," printed at Oxford, 1686, gives a full account of Glog Almanacks of the kind represented in our Engraving; and speaks of them as being still in use "among the meaner sort of people" in that county. He, however, says that it is "a sort of antiquity so little known, that it hath scare been heard of in the southern parts of England, and understood now but by few of the gentry in the northern." With respect to the term "Clog," he thus runs his head against it, while pretending that it was something difficult to be found:—"As to the divers names of them, they are here called Cloggs, for what reason I could not learn, nor, indeed, imagine, unless from the English logg (a term we usually give to any piece of wood), or from the likeness of some of the greater sorts of them to the cloggs wherewith we usually restrain the wild, extravagaat, mischlevto the cloggs wherewith we usually restrain the wild, extravagant, mischievous motions of some of our dogs." In strain the wild, extravagant, mischieven motions of some of our dogs." In Staffordshire, in his time, some few were of brass; but most of wood, chiefly box: others were of fir and of oak, though not so frequent. Those of larger size, such as are represented in our Engraving, were commonly hung at the end of the mantel-tree, by the chimney-nook; others of smaller size were carried in the pocket. Each of the four faces contained a period of three months, commencing with the 1st of January. The days were represented by the notches on the edges, every seventh notch being somewhat wider than the others; and the first day of each month was distinguished by a longer stroke. In those clogs there was no indication of the Dominical Letter, and the numbers between five and ten, by the addition of points or dots. The sign of ten was a cross; and the intermediate numbers to fourteen were signified by

the addition of dots. Fifteen was represented by a cross with a crook at the the author does. There was represented by the addition of dots. Nineteen, the highest number in the cycle, was represented by a double

cross.

The principal festivals were symbolically represented. For instance—the Epiphany, 6th January, by a star; Valentine's Day, 14th February, a true-lovers' knot; the Purification, Annunciation, Assumption, and other festivals of the Virgin, by a Heart; St. David, 1st March, a Harp; St. Davidhas, 14th June, a Rake—Haymaking; St. Peter, 29th June, keys; St. Lawrence, 10th August, a Gridiron; St. Crispin, 25th October, a pair of Shoes; St. Katherine, 25th November, a Wheel.

Our Engaving is from a drawing by Mr. Travia, of the form of Travia.

ZOHI MOVEMBER, a WHEEL. Our Engaving is from a drawing by Mr. Travis, of the firm of Travis and Mangnall, architects, Manchester.

WHITSUN ALE JUG.

This representation of a Whitsun Ale Jug is taken from an excellent specimen in the interesting Museum collected by T. Crofton Croker, Esq. The jug is of white earthenware, and the word Whit, and the date 1649, and the characteristic

white earthenware, and the word Whir, and the date 1649, and the characteristic flourish underneath it, are painted blue.

Whitsun Ales were festivals formerly common at Whitsuntide, in which ale formed the predominant liquor, and hence arose the metonymy; although there has been a vast amount of pains employed to trace the name to other sources. As the money requisite for the feasts was collected by the churchwardens of the parish, Whitsun Ales have also been called Church Ales. They were kept on Sundays, notwithstanding their low and profane reverly; and entries often occur in church books of disbursements in these unholy pastimes, with which, however, are oddly mixed up charges for repairs of the church, maintaining of orphans, &c. orphans, &c.



WHITSUN ALE JUG.

Mr. Douce has left us the following details of the Whitsun Ale:—"Two persons are chosen, previously to the meeting, to be lord and lady of the ale, who dress as suitably as they can to the characters they assume. A large empty barn, or some such building, is provided for the lord's hall, and fitted up with seats to accommodate the company. Here they assemble to dance and regale in the best manner their circumstances and the place will afford; and each young fellow treats his girl with a ribbon or favour. The lord and lady honour the hall with their presence, attended by the steward, sword-bearer, purse-bearer, and mace-bearer, with their several badges or ensigns of office. They have likewise a train-bearer or page, and a fool or jester, drest in a party-coloured jacket, whose ribaldry and gesticulation contribute not a little to the entertainment of some part of the company. The lord's music, consisting of a pipe and tabor, is employed to conduct the dance. Some people think this custom is a commemoration of the ancient Drink-lean, a day of festivity formerly observed by the tenants and vassals of the lord of the fee within his manor; the memory of which, on account of the jollity of those meetings, the people have thus preserved ever since. The glossaries inform us that this Drink-lean was a contribution of tenants towards a potation, or ale, provided to entertain the lord or his steward." Mr. Douce has left us the following details of the Whitsun Ale:-" Two per-

TOKENS OF THUNDER.

THE following curious notices of the tokens of thunder in each month of the year, are from an illuminated almanack of very early date:—
"In the monethe Januarie if ther be thundir it bitokeneth grete wyndis, ha-

boundaunce of fruytis, and bateil to come in that yeer.

"In the monethe of Februarie, if ther be thundir it bitokeneth deeth of many

men, and most of riche men by soris.

"In the monethe of Marcius, if thundir sowne, it bitokeneth deem of many men, and most of riche men by soris.

"In Aprilis thundir if it lowrie it shewith myry yeeryng and fructuous, but it bitokeneth deth of wickid men.

"In Mayus thundir if it come it bitoketh nedre of fruytis and hungir in that

yeer.

"In Juyn if it thundir it bitokeneth that wodis shul be....of....of wyndis and ther shal be grete weondres of houns and of wolves.

"In the monethe of Juli if thundir in that yeer shal be good corn yeeryng

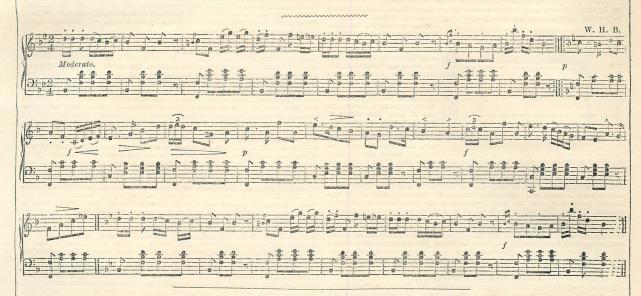
but the birthe of beestis shal peresche.

"August thundir it bitokeneth prosperité in the commune and mané man shul be sub.

"In September if it thundre it bitokeneth aboundance of fruytis.

"In September if it thundre it bitokeneth abundance of nayus.
"In October if it thundir it bitokeneth a right greet wynd and geod harvest and scarsnes of fruytis.
"In the monethe of November if it thundir it bitokeneth aboundaunce of fruytis and myrthe among folk.
"In December if thundir it bitokeneth aboundaunce of cornes and pees and

accord in the peple."



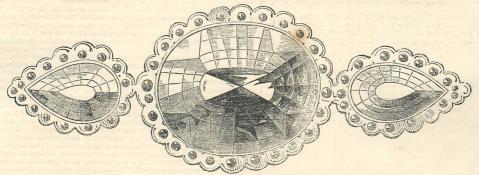
THE CELEBRATED DIAMOND, KOH-I-NOOR, OR MOUNTAIN OF LIGHT.

This famous diamond, which was formerly in the freasury of the Maharajah Dhulep Singh, in the Punjaub, has been forfeited by his treachery to the British; and will, it is said, be brought to England in attestation of the success of our arms in India; which has been suggested that the mischievous superstition attached to the possession of this unique gem might be utterly crushed by this retributive consignment.

We have taken some pains to obtain a Sketch of the Kooh-i-noor, or "Mountain

of Light," and of Runjeet's ruby; both from drawings copied from originals. by Juan Ram, to whom Runjeet Singh sent them for the purpose, at the request of Lord William Bentinek.

It is generally believed that this diamond belonged to the Pandus; but Tavernier says that it was dug out of the mine of Koloor, which is about four days' journey north-west from Masulipatam, in the Nizam's territories, on the banks of the Godavuree; and that it was presented to Shah Jehan by Meer Jumla, who was at first the Commander-in-Chief of the King of Golkonda's army, and afterwards of that of Aurungzeb. The mine of Koloor was discovered not more than a hundred vears before the time of Shah Jehan; when a Zumeendar found a hundred years before the time of Shah Jehan; when a Zumeendar found a

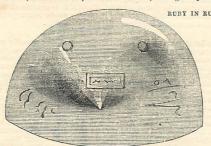


RUNJEET SINGH'S DIAMOND-" THE MOUNTAIN OF LIGHT."

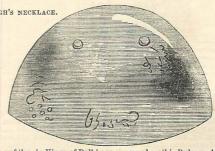
diamond as he was preparing the ground for sowing melons, and this led to the discovery. The Koh-i-Noor is 319 ruttees in weight, and its value was estimated, in the time of Shah Jehan, at 78,15,525 rupees Shah Jehan applied it to adorn the famous Peacock Throne, which was taken by Nadir Shah to Persia, whence the diamond was brought back to Affghanistan by Ahmedshah Dooranee. It remained in the possession of his successors until Maharajah Runjeet Singh obliged Shah Shoojah to deliver it to him.

It is said that this diamond was taken from India by Nadir, the King of Persia, on the same date (29th of March) as that on which, during the past year

(1849), it was retaken from the Sikhs by the rulers of India. The fact is, that it belonged originally to the rulers of India; and now it may be said to have come back again, after such a long time, to the hands of its rightful owners. Runjeet Singh was accustomed to wear this diamond on his right arm, set, as we have engraved it, in gold, surrounded with small rubies. It has been valued at 25 crore of rupees, or 25 million pounds sterling. Tavernier, who saw it in the possession of the Great Mogul, states its weight to be 279 9-10th carats; before cutting, it weighed 900 carats. Its twin jewel is numbered among the crown jewels of Russia.



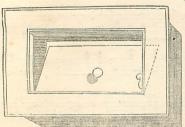
The Ruby, in the accompanying Illustration, has been sketched under similar circumstances. In the Illustration both sides are shown; the gem is worn in Runjeet's necklace. It belonged to Pandoor Rajah, was taken from him by aluded it at 12½ core of rupees, or twelve millions five hundred thousand pounds Timour, and subsequently from Timour's descendants by Ahmeed Shah. The



DOMESTIC INVENTIONS-SANITARY REGULATIONS, &c.

DR. ARNOTT'S VENTILATING CHIMNEY-VALVE.

Dr. Arnorr has suggested, as some relief for an ill-ventilated room, to take a brick out of the wall, near the ceiling, so as to open a direct communication be-



tween the room and the chimney. Any occasional temporary inconvenience of downdraught will be more than compensated by the beneficial compensated by the benenciar results of this simple ventilat-ing process. As an improve-ment upon these chimney openings, Dr. Arnott has devised a balanced metallic devised a balanced metallic valve, to prevent, during the use of fires, the escape of smoke into the room. The advantages of these openings

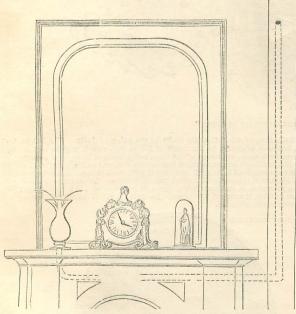
advantages of these openings and valves were soon so manifest, that the Referees appointed under the Building Act added a clause to their bill allowing the introduction of the valves, and directing how they are to be placed, and they are now in very extensive use. By Dr. Arnott's recommendation, in a crowded dispensary in St. James's-parish, openings were made in the chimney-flues of the rooms near the cellings, by removing a single brick, and placing there a piece of wire-gauze, with a light curtain-flap hanging against the inside, to prevent the issue of smoke in gusty weather. The decided effect produced at once on the feelings of the immates was so remarkable, that there was an extensive demand for the new appliance. Most of the hospitals and poorhouses in the kingdom have now these chimney-valves; and most of the medical men and others who have published of late on sanitary matters, have strongly recommended them. Dr. Arnott has freely offered this and other means of ventilation to the public; but persons desiring to use them, should be careful to employ competent makers: they are to be had of ironmongers. ironmongers.

PATENT AIR-SYPHON VENTILATOR.

This new mode of ventilation has been patented by Dr. Chowne, 8, Connaught-place West, Hyde-park, and is based on his finding that, "if a bent tube or hollow passage be fixed with the legs upwards, the legs being of unequal lengths, whether it be in the open air or with the shorter leg communicating with a room or other place, that the air circulates up the longer leg, and that it enters and moves down the shorter leg (s; and that this action is not prevented by making the shorter leg hot, whilst the larger leg remains cold; and no artificial heat is necessary to the longer leg of the Air Syphon, to cause this action to take place." Thus, by using the chimney of an ordinary room, for example (into which air has free access), as the longer leg, and by conducting a tube or channel constituting the short leg of the Air-Syphon, from any part (as near the ceiling, for instance), into the lower part of the chimney, at the suitable place, a stream of air will proceed from the apartment down the shorter leg, and away up the longer one.

of air will proceed from the apartment down the shorter leg, and away ap the longer one.

The means of ventilation can be conducted by light zinc tubes passing round and through a room, and finally into the fire-place; and tubes passing from these to the upper parts of the room, the warm air would constantly descend through them to the continuous channel, and then into the larger leg of the



The Air-Syphon Ventilator admits also of being extemporaneously and temporarily set up in a sick-room, so as to cause a constant removal of air from the upper portion of the apartment, where it is so apt to hang about the curtain furniture of the chamber, and to impregnate it with the exhalations which are so often the result and generators of disease.

A peculiar fact is, that this mode of ventilation affords facilities hitherto not known for carrying away the heat and other products of combustion from gasburners, and other lamps, of which the products are offensive. Again, wherever the Air-Syphon Ventilator is in operation, it is certain, that, should an acciden-

tal escape of gas take place, it will not accumulate, but descend from the upper

part of the room, by means of the shorter leg of the syphon.

In the accompanying Illustration, the dotted lines represent the concealed pipes, about two inches in diameter, which are brought down to the chimpopening, and concealed behind the upper part of the jambs. In like manner, the pipe may be conducted from the bottom of an ornamental vase into the flue; when the air would take the course shown by the arrows, and thorough venti-lation be thus immediately established.

when the air would take the course shown by the arrows, and thorough ventilation be thus immediately established.

DANGER FROM STOVES, FLUES, AND PIPES.

It is seldom that dwelling-houses and such-like buildings take fire and are burnt from the common accidents against which it is practically impossible wholly to guard, such as those which occur to the lighter moveable furniture, and to the drapery used in them; but, for the most part, the danger arises from the exposure of timber, in some form or other, in or about the structure, to the continued action of fire, or of heat, capable, sooner or later, of inducing the combustion of timber; and, as the sonree is most commonly in some stove, furnace, flue, pipe, or other tube for generating or for conveying heat, or for removing the prevented by preventing that degree of proximity between timber and all such things as can lead to the combustion of the timber. That buildings do not take fire and burn more frequently than they do so, proves that to a great extent precautions are taken, and that dangerous proximity between the conduits of fire or of heat in a condition to induce combustion and the combustible materials in the composition of buildings is prevented. The total number of fires in the metropolitan district in the twelve years from 1833 to 1845 inclusive was 7285, of which the causes of 5515 only were known, and of these 1165 were found to have arisen from flues, and fire-places improperly constructed, from furnaces, heating and cooking apparatus, pipe-stoves, drying-stoves, bakers' ovens, and kilns. The daily returns made by the London Fire-Engine Establishment to the insurance-offices state the supposed causes of the fires which occur, and from these it appears that more than one-half of the fires which have reached the structure of buildings, are considered to have originated in defective or overheated chimney-flues, in dead flues, or in some of the many varieties now in use of stoves and furnaces, and their metal tubes or other adjuncts and accessories

BELL-TRAPS.

Hosking, Architect and C. E.

BELL-TRAPS.

To protect buildings from the foul air generated in, or returning by, their own drains, the waste-ways should be double trapped—by a Bell-trap at the sink where waste water enters from the surface, and by a well-trap, or what workmen term, in plainer language, a stink-trap, short of the inlet to the drain; and the communication between the waste-way and the drain should have such a fall, or be so much above the bottom of the drain, that the overflow may be always from the well into the drain, and not from the drain into the well. If, however, bell-traps might be soldered down, and it were done, well-traps in addition would be unnecessary. Bell-traps are commonly left loose, because many substances which pass through the grating or strainer of the trap refuse to pass the trap, either floating so that they cannot go under the lip of the bell, or sinking in the well so that they do not get over the standing end of the drain pipe; and as tea-leaves, rice, and other matters arising from the washing of plates and dishes, the ravelled threads of housecloths, hair from brooms, and many other such like matters, find their way to the grating in the sink, or at the drain-head, and enough of them pass through and lodge in the well into which the bell is dipped, the escape becomes choked, and the trap requires to be lifted to clear the way. To solder down bell-traps is, therefore, to render the sinks useless, unless they are protected from access of such obstructions, or means be devised of clearing them away. They may be protected by a wire strainer over the sink, to stop everything that can tend to choke a bell-trap before it can reach the grating; or any ordinary obstruction may be cleared by forcing all such matters as will pass the grating of a bell-trap to go under the lip of the bell, and to rise over the end of the standpipe, and so pass away into the drain, and the requisite force may be obtained from a slight head of water by means of a very simple apparatus that may be a

SEA-SIDE NUISANCES.

SEA-SIDE NUISANCES.

The inhabitants of, and visitors to, many of our sea-side watering-places are often exposed to annoyance, and sometimes to injury, from the discharge of the town drainage upon the much-frequented sea-beach. Cast-iron mains are commonly used at these places to conduct the sollage from the sewers and drains a little way out from the land, and these are commonly allowed to terminate at half-tide level or thereabouts, so that they are for half their time discharging noisome and pestilential streams under the nostrils of those who betake them selves to the beach for air and exercise. But ladies, with books or with needle-work, and nurses with their charges, are apt to resort to the propped-up and clean-looking round iron pipes for the convenience they offer as seals; and as they sit, they, and the children who play about them, inhale the poisonous gases which the soilage of the town emits, and mmy a family returns inland from the sea-breezes. A few years ago the writer of these lines brought his family home to London, after a six weeks' residence at a sea-side watering-place, with all his children ill, and one of them seriously so, with fever, which resulted in the measles, brought on, he then believed, and still considers, by the cause alluded to. There were some of the town sewer pipes running out to half-tide distance

in the most accessible part of the beach, and upon some of these his children's nurse would seat herself day by day with the baby on her lap, and with the elder children playing about her, and with the children of other families similarly exposed to the same danger.—*Ibid.*.

PATENT FLOATING FILTERING PUMP.

This new Pump, for cleansing and fitering unwholesome water, is the invention of Mr. S. Cheavins, of Donington, in Lincolnshire. Its advantage is to procure a pure and wholesome, as well as an abundant supply—results which, it is believed, have not hitherto been combined in a pump.

The inventor states that his Floating Filtering Pump has been tested in a tidal

pure and wholesome, as well as an abundant supply—results which, it is believed, have not hitherto been combined in a pump.

The inventor states that his Floating Filtering Pump has been tested in a tidal river, and is now used in the extensive brewery in Spalding, where it furnishes a constant and abundant supply of wholesome water, entirely free from the sand and filth which the old leaden pipes, by being placed nearly to the bottom of the water, were in the constant habit of contracting, thereby preventing the engine from obtaining a sufficient quantity of water for the supply of the brewery; and, as a still greater proof of its utility, it may be added, that it has been frequently surrounded with the weeds and rubbish carried down the river, and yet has never, in one single instance, failed to produce a copious supply. Water is sweeter and purer at the surface than it is at the bottom, and the Floating Filter totally ejects filth of every description, such as worms, &c., and all impurities of the smallest kind. The common pump, in consequence of the pipe descending within six or eight inches of the bottom, draws up with the pure water every pernicious sediment within its reach. On the other hand, the Floating Filter, by taking a supply of water within four or six inches of the surface, and rising and falling with the water, at once secures it from all sediment; and should there be fixed to tanks and buts, so as to remove all apprehension of unwholesomeness in the water by any impurity drawn up with it. The Filter can also be attached, without difficulty, to pumps of the old construction.

We have seen Mr. Cheavins's Floating Filtering Pump at work, and can fully attest its successful operation.

attest its successful operation.

WRIGHT'S PATENT VULCAN CHIMNEY-SWEEPING MACHINES.

The inefficacy of machinery for sweeping tortuous, angular, and irregular chimneys, has long been matter of complaint; and has, in some instances, led to the return to the employment of climbing-boys, which the application of machines was intended to supersede. The common failure of the machines hitherto used has been that they swept equally both ways, and left much of the soot in the chimneys.

The Patent Vulcan Sweeper is capable of contracting and expanding by the use of a cylinder or band of vulcanised india-rubber, upon which separate little brushes are so placed, that in ascending they easily press backwards, and leave the soot on the slopes, in the same manner as the common brush; whereas, on the return of the machine, the pressure on the little brushes being reversed, they stand firmly out and hold the head in the middle of the flue, sweeping all they stand firmly out and hold the head in the middle of the flue, sweeping all before it. The cylinder is fixed under a cap, and is protected from all external obstacles. The six little brushes form a round head, when all at liberty, but each one can dip down independently of the other when required to do so. There are, also, universal joints of a novel character, constructed with the vulcanised india-rubber; and, in cases where the chimney pots are very contracted, a small pilot brush, with very stiff whalebone to scratch off the hard soot, precedes the main one, and thus averts the necessity of its being squeezed through the narrow orifice, which is always attended with more or less danger to the pot, and requires so great a range of elasticity in the machine as to render it weak and inefficient in large flues. The Vulcan machines are employed in various ways, and of different sizes, to sweep stove-pipes, and every kind of chimney. They are manufactured and sold by Mr. Every, at Quarndon, near Derby.

PRECAUTIONS AGAINST CHOLERA.

Medical authorities are agreed that the remedies proper for the premonitory symptoms of cholera are the same as those found efficacious in common diarrhoa; that the most simple remedies will suffice, if given on the first manifestation of this symptom; and that the following, which are within the reach and management of every one, may be regarded as among the most useful, namely, 20 grains of opiate confection, mixed with two tablespoonfuls of peppermintwater, or with a little weak brandy-and-water, and repeated every three or four hours, or oftener, if the attack is severe, until the looseness of the bowels is stopped; or an ounce of the compound chalk mixture, with 10 or 15 grains of the aromatic confection, and from five to ten drops of landanum, repeated in the same manner. From half a drachm to a drachm of tincture of catechu may be added to this last, if the attack is severe.

to this last, if the attack is severe.

Half these quantities should be given to young persons under fifteen, and

smaller doses to infants.

It is recommended to repeat these remedies night and morning, for some days after the looseness of the bowels has been stopped. But, in all cases, it is desirable, whenever practicable, that even in this earliest stage of the disorder, recourse should be had to medical advice on the spot.

course should be had to medical advice on the spot.

Next in importance to the immediate employment of such remedies, is attention to proper diet and clothing. Every article of food which is known to favour a relaxed state of the bowels should, as far as possible, be avoided—such as every variety of green vegetable, whether cooked or not, as cucumber and salad. It will be important, also, to abstain from fruit of all kinds, though ripe, and even cooked, and whether dried or preserved. The most wholesome articles of vegetable diet are, well-baked, but not new, bread; rice, oatmeal, and good potatoes. Pickles should be avoided.

The diet should be solid rather than fluid; and those who have the means of choosing should live principally on animal food, as affording the most concentrated and invigorating diet; avoiding salted and smoked meats, pork, salted and shell-fish, cider, perry, ginger-beer, lemonade, acid liquors of all descriptions, and ardent spirits.

Great moderation, both in food and drink, is absolutely essential to safety

during the whole duration of the epidemic reriod. One single act of indiscretion has, in many instances, been followed by a speedy and fatal attack. On account of the intimate connexion between the external skin and the internal lining membrane of the bowels, warm clothing is of great importance. The wearing of flannel next the skin is therefore advisable. Recent experience on the Continent seems to show that it was useful to wear in the day-time a flamel bandage round the body, and this may become necessary in our own country during the damp and cold weather of the approaching season.

Particular attention should be paid to keeping the feet warm and dry; chang-

Particular attention should be paid to keeping the feet warm and dry; changing the clothes immediately after exposure to wet; and maintaining the sitting and bed-rooms well aired, dry, and warm.

It may be necessary to add a caution against the use of cold purgative medicines, such as saits, particularly Glauber saits, Epsom saits, and Seidlitz powders, which, taken in any quantity, in such a season, are dangerous. Drastic purgatives of all kinds should be avoided, such as senna, colocynth, and aloes, except under special medical direction.

If notwithstanding these precautionary measures a person is seized suddenly

purgatives of an kindas sincina be avoided, such as senina, conceptint, and aloes, except under special medical direction.

If, notwithstanding these precautionary measures, a person is seized sudden, with cold, griddiness, nausea, vomiting, and cramps, under circumstances in which instant medical assistance cannot be procured, the concurrent testimony of the most experienced medical authority shows that the proper course is to get as soon as possible into a warm bed; to apply warmth by means of heated flannel, or bottles filled with hot water, or bags of heated camomile flowers, sand, bran, or salt, to the feet and along the spine; to have the extremities diligently rubbed; to apply a large poultice of mustard and vinegar over the region of the stomach, keeping it on fifteen or twenty minutes; and to take every half-hour a tea-spoonful of sal volatile in a little hot water, or a dessert-spoonful of brandy in a little hot water, or a wine-glass of hot wine whey, made by pouring a wine-glass of sherry into a tumbler of hot milk: in a word, to do everything practicable to procure a warm, general perspiration, until the arrival of the medical attendant, whose immediate care, under such circumstances, is indispensable.

It has not been deemed necessary or proper to give instructions for the treatment of the advanced stage, from the confident expectation that the proposed arrangements will supply medical attendance to all cases that may reach that condition, by which means the specific symptoms of each individual case will re-

condition, by which means the specific symptoms of each individual case will receive their appropriate treatment.

Whatever is preventive of cholera is equally preventive of typhus, and of every Whatever is preventive of cholera is equally preventive of typhus, and of every other epidemic and constantly recurring disease; and the attention of all classes is earnestly called to the striking and consoling fact, that, formidable as this malady is in its intense form and developed stage, there is no disease against which it is in our power to take such effectual precaution, both as collective communities and private individuals, by vigilant attention to it in its first or premonitory stage, and by the removal of those agencies which are known to promote the spread of all epidemic diseases.—Abridged from the Report of the General Board of Health, to July, 1849.

DISINFECTING PROCESS.

DISINFECTING PROCESS.

In all times of epidemic, it is desirable that householders should be warned of the necessity of looking to the state of the sinks, drains, cesspools, water-closets, &c., and that, as a means of prevention, those receptacles should be cleansed by pouring down them a solution of chloride of lime, and that his should be done simultaneously throughout the neighbourhood, in order to produce an effect on the public sewers; this mode of purifying being adopted at one time; thus, in 1849, it was publicly recommended, between the hours of nine and ten on each Saturday morning. This plan was carried out at Totenham for several weeks, and here no case of cholera occurred, nor were the cases of diarrhea more frequent or severe than usual at that season of the year. Chloride of lime may be had of any druggist. Two ounces is sufficient to be stirred into a nail-full of water, and costs only one penny. into a pail-full of water, and costs only one penny.

ORIGIN OF THE "BILLS OF MORTALITY."

The Bills of Mortality were commenced in the reign of Queen Elizabeth, and ever since the year 1603 have been published by authority in London. In the respect the English metropolis stands alone; no weekly tables of the causes of the death of every inhabitant are published in the capital of any other European state. Various motives for the measure have been assigned; but the fact of continuous publication from a period anterior to the appearance of newspapers and gazettes, is remarkable and characteristic. It may be fairly referred to the natural inclination of the English people, when they are in trouble, to know the truth, and to see in figures the precise extent of their losses, although at times the sight might well make the courage of the bravest quail. On the Continent, "precautions" were used in publishing the mortality of cholera in 1849; and the deaths from all causes were not made known.

The parish-clerks of London, in the seventeenth century, when the plague was at its height, counted the deaths and reported the supposed causes; and the citizens, when the death-cart traversed the streets, anxiously studied the bill, surrounded by its gloomy symbolical border, announcing 8297 deaths in a week, out of a population of 600,000. Returns just published by order of the House of Commons, show that the total number of new houses built within the metropolitan police districts since January 1, 1839, up to September, 1849, amounts to 64,088; and the number of new streets formed to 1652, in length 200 miles. The increase of population for m 1839 to 1849, within the said district, is estimated at 525,004; the total population of the metropolitan district being now about 2,336,060. In the hands of Price, Heberden, Willis, Bateman, and other statists, those records have disclosed the laws of mortality, and the causes of the insalubrity of the present cities. brity of the present cities.

STATISTICS OF METROPOLITAN BURIAL-GROUNDS.

In area, the parechial grounds take up 176 acres and 3-10ths; the Protestant Dissenters, 8 acres and 7-10ths; the Roman Catholies, 3-10ths of an acre; the Jews, 9 acres and 2-10ths; Swedish Chapel, 1-10th; undescribed, 10 acres and 9-10ths; private, 12 acres and 6-10ths. Total of intramural, 218 acres and 1-10th; total of new cemeteries, 260 acres and 5-10ths.

	Annual No. of burials exclusive of vault burials,	No. of burials per acre.		Highest No. of burials per acre in any ground.		Lowest No. of burials per acre in any ground.
Parochial grounds .	. 35,747	 191		3073		
Protestant Dissenters	1715	 197				6
Roman Catholics	. 270	 1043				814
Jews	. 340	 33		52		13
Swedish Chapel .	. 10	 108				_
Undescribed	2197	 294				5
Private	5112	 405		2323		50
		 _				
Total intramural .	. 44,355	 203			••	46
Total of new cemeteri		 13		155	••	4
Vault burials	789	 -	••	_	••	

It is computed that it requires seven years for a layer of bodies to decay in the metropolis.—Banfield and Weld's Statistical Companion.

RURAL ECONOMY.

CHOICE OF FOWLS, ETC.

CHOICE OF FOWLS, ETC.

The most important varieties of Fowl are the Cochin China, the Malay, the Spanish, the Dorking, the Old Sussex, the Hamburg, the Polish, the Columbian or Mongolian, the Bantam, and the Game Fowl.

The Cochin China is usually of a bright bay colour, darker above with a black horse-shoe mark upon the breast, wings borne tightly up, bearing erect and lively, whole form approaching to that of the Bustard, comb and wattles large and simple. This fowl was introduced into Great Britain some years back by Her Majesty, and it is truly a Royal bird. The hen is prolific to an extraordinary degree; "Bessy," when in the possession of the Queen, is stated to have laid an egg daily for 95 successive days—a degree of fecundity unrivalled by any other variety. These hens, also, repeatedly lay two, and even three eggs per day, for many days in succession. The flesh is excellent, but the bird is much too scarce and costly for general use. The cock is game to the last degree, capable of killing the most powerful game-cock in a few minutes.

The Malay is nearly as large as the Cochin China; but it is not a good bird in flesh. The hen does not lay so large an egg as her size would promise. The Malay fowl is, however, valuable for crossing with other varieties.

The Spanish is known by its jet black colour, large toothed comb and wattles, and white cheek or earpiece. This is one of the very best birds, it is fully climatised, and consequently hardy, and of beautiful appearance; possesses flesh of the best and whitest quality, and acquires it very rapidly: the hen lays a large egg, and is only surpassed in fecundity by the Cochin China.

The Dorking is remarkable for possessing five well-developed toes, and sometimes a rudimentary sixth, on each foot. This is a plump-bodied white-fleshed fowl, very good for table use: and the hen is tolerably prolific, but not equal in that respect to the Spanish. The Sussex has latterly, to a great degree, supersedd the Dorking in popular estimation; in form and appearance; ind

large top-knots, and gay, or even gorgeous plumage. They are very ornamental, but not entitled to the notice of such as look chiefly or solely to pounds, shillings,

and pence

The Columbian or Mongolian, a native of South America, is a small and sin-The Columbian or Mongolian, a native of South America, is a small and singularly beautiful bird, standing very erect. Its colour is a black ground, relieved about the head, neck, and wing coverts by numerous spangles of white, and here and there patches of brilliant green bronze. The comb of the cock is large, and the hen has one also; she has, too, a tuft of feathers below the bill, and two tufts springing, moustache-like, from the corners of the mouth. The egg laid by her is of extraordinary size, but she seldom lays more frequently than one every second day, and, during a considerable portion of the laying season, does not lay at all. As a fancy foul, this may compete with the Cochin China; but its fiesh is black and tough.

The Bantam is too well known to require description. The bay variety, with black spangles and naked legs, known as the "Sebright" is the most valuable.

The Bantam is too well known to require description. The bay variety, with black spangles and naked legs, known as the "Sebright," is the most valuable. At the show in London, in February, 1847, three of these birds fetched the amazingly large price of fifty pounds and one shilling. The Bantam is singularly prolific, and the little egg is considered a delicacy peculiarly suited to the invalid, or to persons whose digestive powers have become impaired. The Game Fovl are very prolific, are ready fatteners, and possess more delicate flesh than any other known variety. If they can be kept strictly apart, well and good; otherwise their pugnacity renders them unfit inmates of the general poultry-yard, as their individual value will by no means compensate their keepers for the injury they may do to other, and probably more valuable birds. Her Majesty's poultry-keeper, Mr. Walters, made the experiment of crossing the Dorking with the Cochin China fowl, and a noble and valuable breed was the result. Mr. Burgess, of Pill-lane, Dublin, has the merit of having established an entirely new and valuable variety, known as "Burgess' Black," by a cross between Spanish and Maiay, grafted with Dorking. The Sussex or Dorking makes a good cross with the Spanish. The Columbian and Sussex produces an admirable bird, possessing excellent shape, great fecundity, and retaining the characteristic of cross with the Spanish. The Columbian and Sussex produces an admirable bird, possessing excellent shape, great fecundity, and retaining the characteristic of laying eggs nearly as large as those of a goose. The advice to the farmer on the subject of crossing is, that he keep as a standing stock, Spanish and Sussex; that he also have, if possible, a Cochin China cock, but in any case a Malay cock. In this manner, he will, by cautious admixture, gradually arrive at his desideratum. The Sussex possesses the highest perfection of form; the Spanish the best flesh, and laying qualities of a high character; while the Malay gives increased isc, and if it be the Cochin China which is employed for that purpose, also increased fecundity. Let the reader follow this advice, and he will find himself amply compensated for any trouble or preliminary expense he may be at, by the large returns he will experience in the substantial and satisfactory form of pounds, shillings, and pence.

setting he will experience in the substantial and satisfactory form of pounds, shillings, and pence.

Most properly kept and properly fed fowl have, in January, begun to lay, and it is themadvisable to set the eggs as early as you can collect a clutch. These early chickens will be ready the sooner to meet the market, and such as are to be kept will be the better able to endure, uninjured, the temperature of the ensuing winter.—Abridged and selected from a paper by Mr. H. D. Richardson, in the Agricultural and Industrial Journal, No. 1.

To make Hens Lay Perpetually.—Keep no roosters; give the hens a very small portion of fresh meat chopped up like sausage meat, say half an ounce a day to each hen, during the winter, or from the time insects disappear in the fall till they appear again in the spring. Never allow nest eggs. The only reason why hens do not lay all winter as freely as in summer is the want of animal food, which they get in summer in abundance, in the form of insects. The writer assures us that he has for several winters reduced his theory to practice, and preced its native correctness. and proved its entire correctness.

Rules in Raising Poultry.—1. All young chickens, ducks, and turkeys should be kept under cover, out of the weather, during rainy seasons. 2. Twice or thrice a week, pepper, shallots, shives, or garlie should be mixed up with their food. 3. A small lump of assafetida should be placed in the pan in which water is given them to drink. 4. Whenever they manifest disease, by the drooping of the wings, or any other outward sign of ill-health, a little assafeetida, broken into small lumps, should be mixed with their food. 5. Chickens which are kept from the dunghill while young seldom have the gapes; therefore it should be the object of those who have the charge of them so to conflict the hens as to prefude their young from the range of have or table yavis. 6. Should as to preclude their young from the range of barn or stable yards. 6. Should any of the chickens have the gapes, mix up small portions of assafeetida, rhubard, and pepper, in fresh butter, and give each chicken as much of the mixture as will lie upon one-half the bowl of a small teaspoon. For the pip, the following treat-

ment is judicious :- Take off the indurated covering on the point of the tongue. ment is judicious:—Take off the indurated covering on the point of the tongue, and give twice a day, for two or three days, a piece of garlic the size of a pea. If garlic cannot be obtained, onion, shallot, or shives will answer; but if neither of these be convenient, two grains of black pepper, to be given in fresh butter, will answer. 8. For the snuffles, the same remedies as for the gapes will be found highly curative; but, in addition to them, it will be necessary to melt a little assafetida in fresh butter, and rub the chicken about the nostrils, taking care to clean them out. 9. Grown-up ducks are sometimes taken off rapidly by convulsions; in such cases, four drops of rhubarb and four grains of cayenne pepper, mixed in fresh butter, should be administered. Last year we lost several by this disease, and this year the same symptoms manifested themselves among them; but we arrested the malady without losing a single duck, by a dose of the above medicine to such as were ill. One of the ducks was at the time paralysed, but was thus saved.—Canterbury Journal. lysed, but was thus saved.—Canterbury Journal.

Wasps' Nests.—These troublesome insects appeared during the past year in great numbers. It is not always possible completely to demolish the nest. The following contrivance for entrapping the stragglers will be found useful. Bury a wine bottle in the ground, so that the mouth alone shall be uncovered. The experi-The experiment will be the surer if a small quantity of sugar and water, or honey, be left at the bottom of the vessel. The wasps will get into the bottle, and be unable to effect an exit; and in a short time it may be taken up chokefull of

Cure for Bee-Stings.—The only positive and immediate cure for a bee-sting we have ever heard of, that may be depended on in all cases, is tobacco. The manner of applying it is as follows:—Take ordinary fine-cut smoking or chewing tobacco, and lay a pinch of it in the hollow of your hand, and moisten it and work it over until the juice appears quite dark-coloured; then apply it to the part stung, rubbing in the juice, with the tobacco between your thumb and fingers, as with a sponge. As fast as the tobacco becomes dry, add a little moisture and continue to rub and press out the juice upon the inflamed spot during five or ten minutes; and, if applied soon after being stung, it will cure in every case.—Miner's American Bee-Keeper's Manual.

BUTTER-MAKING.

BUTTER-MAKING.

In the Valais, Dr. Forbes, the celebrated physician, assures us, Butter is preserved sweet, or, at least, perfectly fit for use, through the whole season, without any admixture of salt. The following is the way in which it is treated:—
"A narrow deal board, not more than four or five inches wide, is fixed horizontally in an open place in the dairy; wooden pins, from two to three feet in length, are fixed in an upright position into this, their whole length projecting above its surface. As the butter is made it is placed daily around these pins (one at a time), beginning at the lower end, and in a mass not exceeding at first the width of the board. Every day, as more butter is made, it is added to the previous portion around the pin, the diameter of the growing mass being gradually enlarged upwards, until the upper surface overhangs the base to a considerable extent, like an inverted beehive. When one pin is filled, another is proceeded with in like manner, and so on. The exposed surface of these masses gets soon covered with a sort of hard film, which effectually excludes the access of the air; and this circumstance, with two others—viz. the complete expression of milk from the butter, and the unobstructed circulation of a cool mountain air through the châlet, will go far to explain how butter so treated can remain so long without becoming spoiled." Dr. Forbes also gives the following mode of preparing the winter store of butter, or what is called in the Valais and Piedmont beurre cuit, or boiled butter, which the Doctor considers much more advantageous to health and comfort than the cheap salt butter sold in England:—
"Into a clean copper pan (better, no doubt, tinned) put any quantity of butter, say from twenty to forty pounds, and place it over a very gentle fire, so that it may melt slowly; and let the heat be so graduated that the melted mass does not come to the boil in less than about two hours. During all this time the butter must be frequently stirred, say once in five or ten minutes, s but everybody agrees in asserting that butter so preserved will last for years perfectly good, without any particular precautions being taken to keep it from the air, or without the slightest addition of salt."

To Correct Sourness in Milk, Cream, and Bread.—It is not generally known To Correct Sourness in Milk, Cream, and Bread.—It is not generally known that the sourness of milk and cream may be immediately corrected by the addition of a small quantity of the common carbonate of magnesia, in powder. Half a teaspoonfu (about equal to 4 grains) may be added to a pint of milk or cream, it only slightly sour; a larger quantity in proportion to the degree of sourness. From two to three grains may be added to every pound of flour to prevent sourness in bread—so injurious to health. Carbonate of soda is sometimes employed for the same purpose, but it communicates a very unpleasant flavour to the bread; and, in the case of milk or cream, is worse than the disease.

TO CURE HAMS

Westphalia Hams.—Get the hams cut in the shape of Westphalias, long, narrow, and pointed at the end, and put them under a board, heavily pressed down, to flatten them. About four days after killed, rub them with common rough salt, particularly about the hip-bone and knuckle joints. After a day and a night, remove the salt, dry the hams with a coarse cloth, and rub into each 1 oz. saltpetre powdered finely, and let it lie for 24 hours. Then mix powdered saltpetre, 1 oz.; common salt, ½ lb.; bay salt, ½ lb; coarse sugar, 1 lb.; make them hot in a pan—but be careful not to melt them—rub them well in while hot, all over the fleshy and rind sides, and finish with half a pound more common salt. Let the hams lie thus until a brine appears, strew bay-leaves both under and over, turn them every day, and rub them and baste them with the brine for three weeks; then take them out of pickle, and soak them in cold spring water for twenty-four hours; let them drain; wipe them with cap lated pigs' blood, and put them to smoke for a week, well smothered. Or, a sort of Westphalia flavouring may be made of 100 parts of water, 4 of salt, 2 of brown sugar, 1 of Barbadoes tar, and 1 of spirit of wine. After it has been well mixed, and stood for several days, 3 table-spoonfuls may be mixed with the salt necessary to cure a ham.

Westmoreland Hams.—Procure a leg of pork, about 20 lb. weight; rub it well

with 3 oz. saltpetre, and let it lie 14 hours. Then mix stale porter or beer, 2 qts.; common salt, 2 lb.; coarse sugar, 2 lb.; bay salt, pounded, 1 lb.: boil and skim it well, and pour it hot over the meat. In this pickle the meat must remain one month, being rubbed and turned at least every other day. Then take it out, rub it dry, and roll it in malt-dust, or oatmeal; smoke the ham three weeks, and hang it in a dry but not warm room.

and hang it in a dry but not warm room.

Warvickshire Hams.—Rub the leg of pork with 2 oz. powdered saltpetre, particularly about the hip-joint, and let it lie 24 hours. Then mix soft water, 1 gallon; pale dried malt, 1 peck; sugar or treacle, 1 lb.; bay salt, bruised, 1½ lb.; common salt, 2½ lb.; shalots or onions, sliced, 3 cz. Boil together ten minntes; skim the pickle; pour it hot over the meat, and let the grains remain until they begin to be sicky, when they may be drained in a sieve, and removed. Keep the hard covered with this pickle for three weeks, and turned and rubbed every day for three weeks, when it may be taken out, dried with cloths, and smoked three weeks or a month. Put the ham into a box with malt-dust, and cover from the air with sand dried in an oven. The three preceding receipts are from "The Whole Art of Pickling, Curing, and Smoking Meat and Fish," by James Robinson, eighteen years a practical curer. eighteen years a practical curer.

Beef Pickle, a la Garrick. (Red.)—Take 20 lb. of salt, \$1b. saltpetre. 4 cakes sal prunella, 2 lb. moist sugar, and 2 cloves of garlic. Pound and mix all together, rub with it the meat, cover it for about a week, rubbing and turning it every other day.

WINE FROM THE RHUBARB STALK.

WINE FROM THE RHUBARB STALK.

Mr. Roberts, of Edinburgh, has appended to the fifth edition of his "British Wine-maker and Domestic Brewer," a Supplement on the Rhubarb Plant, showing it to be a basis nearly as valuable as that of the Grape for producing Champagne, Hock, Madeira, and Constantia. If sweet wine be required, six pounds weight of stalk to a gallon of water will be a proper proportion; but if a dry wine, to imitate Hock, Vin Grave, &c., is wished, more than double that weight will be necessary. The rhubarb should be used as soon after being cut as possible; and if it be of superior quality, the stalks, when ground or grated, and thoroughly pressed, will yield about eighty per cent. of juice; so that, by using 13 pounds, we should have rather more than 10 pounds of juice, and by adding one gallon of water to every 13 lb. of rhubarb stalk, when pressed, we should have two gallons of juice and water; viz. ten pounds of rhubarb juice giving one gallon, and 10 lb. of water giving one gallon. This mixture, made with 13 lb. of rhubarb stalk to the gallon, will take about 33 lb. of sugar to each gallon, which should be the finest East India or crushed sugar; the sugar giving an excess in quantity of 13 pint to each gallon.

The requisite implements and utensils are a small apple-mill, a fermenting tub, a cask of the same description, but less in size (say 18-gallon), with two or

The requisite implements and utensils are a small apple-mill, a fermenting tub, a cask of the same description, but less in size (say 18-gallon), with two or three tap-holes on a line in the front, and near the bottom; the top being taken out, and a flat circular slab of wood, with a few perforated holes, made to fit the interior. This slab, with one or two half-hundredweights placed on it, is to act the pulp-press. Next will be required a sherry quarter-cask, capable of containing about 28 gallons; two tubs, similar to washing-tubs, each to hold 15 gallons—one to receive the pulp from the mill, the other to receive the juice from the press: a hair sieve and stand complete the utensils.

Assuming the quantity of Hock to be made is 27 gallons, with two additional gallons for casking, the weight of rhubarb stalk required will be 156 lb., to be ground in the apple-mill, the pulp running into a tub placed under the spout, and then put into the small cask or press. This press is also placed on a stand, so as to admit the other tub under it to receive the pressed juice which flows from the tap-holes. The juice is then strained through a sieve into the fermenting-tub. Meanwhile, the slab with the weights upon it is put on the pulp in the press, and the pressed juice thus procured strained and added to the former; and in an hour or so the corks may be replaced in the tap-holes, and the slab and weights removed. weights removed.

weights removed.

The juice which has been strained into the fermenting-tub will measure about 12 gallons. Twelve gallons of water, if possible at the heat of 80° to 100°, are to be poured on the pressed pulp in the small cask or press, the whole thoroughly agitated, and then allowed to remain eight or ten hours, in order to extract what value may have been left in the pulp; after which this liquor is to be drawn off, and added to the juice in the fermenting-tub. The pulp is to undergo a second pressing with the slab and weights, and the pressed liquor is to be added to the former juice, which should measure now, in the whole, 24 gallons.

Eighty-four pounds of sugar—the whiter the better—are next to be put to the inice and water in the fermenting-tub, which will cause it to measure about 29

juice and water in the fermenting-tub, which will cause it to measure about 29 gallons. With this sugar should be put in three-quarters of a pound of tartaric

gailons. With this singar should be put in three-quarters of a point of that the acid, thoroughly dissolved in a little boiling water; and the whole should be then well mixed together.

The fermenting-the, containing the must, is to be placed in a warm situation, and the must weighed with a saccharometer, which will indicate perhaps a degree or so more or less than the required standard, 25, i. e. 130. If more, a little boiling water may be added to reduce it; if less, as much sugar as will bring the must up to that point.

It is then allowed to fearment until it is reduced in gravity to 80 or 90, being in

the must up to that point. It is then allowed to ferment until it is reduced in gravity to 80 or 90, being in the interval carefully stirred and weighed. When reduced to 80 or 90, it is to be casked in a newly-emptid sherry quarter-cask, of 27 or 28 gallons. There will be enough must to fill the cask at first, and to continue filling it during the time it remains unbunged; the cask being placed obliquely upon a stand, with a dish under it. During the time is hermenting, and before it is bunged down, it should be tried with the saccharometer once a week; and when reduced to one-lift terriginal cavity, say 65, the cask may be bunged down, and the wife It should be tried with the saccharometer once a week; and when reduced to one-half its original gravity, say 65, the cask may be bunged down, and the wine allowed to remain undisturbed until October or November, supposing it to have been made in May or June. By this time it should be reduced to 30 of gravity. If, however, at any of these examinations it is found that the wine has attenuated below 30 before the period just mentioned, it must be immediately racked off, to prevent its being too much reduced.

It is then advisable to get another newly-emptied sherry quarter-cask, and to fumigate it twice at about an hour's interval; 2½ gallons of the finest Somerest-shire cider, with half a gallon of Bucellas wine, are to be put into the cask, to be bunged and well rolled about to incorporate the fumes of the brimstone with the contents. The clear portion of the wine is then to be racked into it, leaving room for the finings, usually consisting of a little isinglass dissolved in sour wine. A very delicious and cheap wine may be made from rhubarb stalks -61 bit.

A very delicious and cheap wine may be made from rhubarb stalks -61 lb. to every gallen of water, and 3\frac{1}{2} lb. for every gallen of water, and 3\frac{1}{2} lb. for sugar to each gallon of juice and water. The rhubarb is ground to a pulp in an apple-mill, and the juice then presed out of it; it is worked as other home wines, and fined by adding 4 lb. of sugarcandy, dissolved.

Cold Cream.—Warm gently together four ounces of oil or almonds and one ounce of white wax, gradually adding four ounces of rose-water. This will make good cold cream, whereas that sold in the shops is usually nothing more than lard beat up with rose-water.

COOKERY.*

White Haricot Beans.—Nothing is so cheap or so solid food as haricot beans. Get a pint of fine white beans, called the dwarf; put them into half a gallon of cold soft water, with one ounce of butter; they take about three hours to cook, and should simmer very slowly; drain them and put them into a stewpan, with a little salt, pepper, chopped parsley, two ounces of butter, and the juice of a lemon, place on the fire for a few minutes, stir well, and serve.

The water in which it is builted will not really a beautiful to the control of the state o which it is boiled will not make a bad soup by frying four onions in butter in a stewpan, adding a little flour, then the water poured over, and a slice of toasted bread cut in pieces, and served in a tureen. Should the water in boiling reduce too fast, add a little more. The longer sort requires to be soaked a few hours

too fast, add a little more. The longer sort requires to be soaked a few hours before boiling.

Irish way of Boiling Potatoes.—In Ireland, where this root has been for so long a period the chief nourishment of the people, and where it takes the place of bread and other more substantial food, it is cooked so that it may have, as they call it, a bone in it; that is, that the middle of it should not be quite cooked. They are done thus:—Put a gallon of water with two ounces of salt in a large iron pot, boil for about ten minutes, or until the skin is loose, pour the water out of the pot, put a dry cloth on the top of the potatoes, and place it on the side of the fire without water for about twenty minutes, and serve. In Ireland turf is the principal article of fuel, which is burnt on the flat hearth: a little of it is generally scraped up round the pot so as to keep a gradual heat; by this plan the potato is both boiled and baked. Even in those families where such a common art of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only imart of civilised life as cooking ought to have made some progress, the only the cooked and the cooked as the cooked as the coo

the potato is both boiled and baked. Even in those families where such a common art of civilised life as cooking ought to have made some progress, the only improvement they have upon this plan is, that they leave potatoes in the dry pot longer, by which they lose the bone. They are also served up with their skins (jackets) on, and a small plate is placed by the side of each guest. Beetroot.—Take two nice young boiled beetroots, which will require about from two to three hours to simmer in plenty of boiling water; peel when cold, cut in slanting direction, so as to make oval pieces; peel and cut in small dice two middling-sized onions, put in a pan, with two ounces of butter, fry white, stirring continually with a spoon; add a spoonful of flour, and enough milk to make a nice thickish sauce, add to it three saltspoonfuls of salt, four of sugar, one of pepper, a spoonful of good vinegar, and boil a few minutes; put in the slices to simmer for about twenty minutes, have ready some mashed potatoes, with which make a neat border in your dish one inch high, then put the beetroot and sauce.

simmer for about twenty minutes, have ready some mashed potatoes, with which make a neat border in your dish one inch high, then put the beetroot and sauce, highly seasoned, in the centre, and serve.

Teal, a new method.—Procure four, draw them, then put half a pound of butter upon a plate, with a little pepper, grated nutmeg, parsley, a spoonful of grated crust of bread, the juice of a lemon, and the liver of the teal, mix well together, and with it fill the interior of the teal; cover them with slices of lemon, fold in thin slices of bacon, then in paper, and roast twenty minutes before a sharp fire; take off the paper, brown the bacon, dress them upon a slice of thick toast, letting the butter from the teal run over it, and serve very hot. serve very hot.

serve very hot.

Pig's Cheek, a new method.—Procure a pig's cheek, nicely pickled, boil well until it feels very tender; tie half a pint of split peas in a cloth, put them into a stewpan of boiling water, boil about half an hour, take them out, pass through a hair sieve, put them into a stewpan, with an ounce of butter, a little pepper and salt, and four eggs, stir them over the fire until the eggs are partially set, then spread it over the pig's cheek, egg with a paste-brush, sprinkle bread arms coverness is the many serverness of the pig's cheek, egg with a paste-brush, sprinkle bread arms coverness is the many serverness of the pig's cheek, egg with a paste-brush, sprinkle bread-crumbs over, place in the oven ten minutes, brown it with the salamander. and serve.

Melted Butter .- Put into a stewpan two ounces of butter, not too hard, also

and serve.

Melled Buller.—Put into a stewpan two ounces of butter, not too hard, also a good tablespoonful of flour, mix both well with a wooden spoon, without putting it on the fire; when forming a smooth paste, add to it a little better than half a pint of water; season with a teaspoonful of salt, not too full, the sixth part that of pepper; set it on the fire, stir round continually intil on the point of boiling; take it off, add a teaspoonful of brown vinegar, then add one onnee more of fresh butter, which stir in your sauce till melted, then use where required; a little nutning grated may be introduced; it ought, when done, to adhere lightly to the back of the spoon, but transparent, not pasty; it may also, if required, be passed through a tammy or sieve. If wanted plainer, the last butter may be omitted.

Fritadella (twenty receipts in one).—Put half a pound of crumb of bread to soak in a pint of cold water; take the same quantity of any kind of roast or boiled mear, with a little fat, top it up like sausage meat; then put your bread in a clean cloth, press it to extract all the water; put into a stewpan two ounces of butter, a tablespoonful of chopped onions, fry for two minutes, then add the bread, stir with a wooden spoon until rather dry, then add the meat, season with a teaspoonful of salt, half the same of pepper, a little grated nutning, the same of lemon peel, stir continually until very hot; then add two eggs, one at a time, well mix together, and pour on a dish to get cold. Then take a piece as big as a small egg, and roll it to the same shape, fatten it a little, egg and bread-crumb over, keeping the shape, do all of it the same way, then put into a sauté-pan a quarter of a pound of lard, or clean fat, or oil; when hot, but not too much so, put in the pieces, and sauté a very nice yellow colour, and serve very hot, plain, on a napkin, or on a border of mashed potatoes, with any sauce or garniture you fancy. These can be made with the remains of any kind of meat, poultry, game, tish, and even v tending it is the purchase of a small wire sleve for the bread-crumbs. The reason it is called twenty receipts in one is, that all kinds of food may be used for it—even shrimps, oysters, and lobsters.

Batter for Fritters.—Take half a pound of flour, one ounce of butter (which melt), the whites of three eggs, well beaten, half a glass of beer, and enough present to replace a thick better.

melt), the whites of three eggs, well beaten, half a glass of beer, and enough water to make a thick batter.

New Mode of Making Coffee.—Choose the coffee of a very nice brown colour, but not black (which would denote that it was burnt, and impart a bitter flavour); grind it at home if possible, as you may then depend upon the quality; if ground in any quantity, keep it in a jar hermetically sealed. To make a pint, put two ounces into a stewpan, or small from or tin saucepan, which set dry upon a moderate fire, stirring the coffee round with a wooden spoon continually until it is quite hot through, but not in the least burnt: should the fire be very fierce, warm it by degrees, taking it off every now and then until hot (which would not be more than two minutes), when pour over a pint of boiling water, cover close, and let it stand by the side of the fire (but not to boil) for five minutes, when strain it through a cloth or a piece of thick gauze, rince out the stewpan, pour the coffee (which will be quite clear) back into it, place it upon the fire, and, when nearly boiling, serve with hot milk if for breakfast, but with a drop of cold

* From Sover's "Modern Honsewife"

* From Soyer's "Mcdern Housewife."

milk or cream if for dinner. The foregoing proportions would make coffee good enough for any person, but more or less coffee could be used if required; the cloth through which it is passed should be immediately washed and put by for the next occasion. A hundred cups of coffee could be made as here directed in half an hour, by procuring a pan sufficiently large, and using the proper proportions of coffee and water, passing it afterwards through a large cloth or jelly-bag.

How to Make a Delicious Cup of Tea .- Before pouring in any water, the teanow to make a beautiful state of the control of the fire to the oven till hot, or heated by means of a spiri-lamp, or in front of the fire (not too close, of course), and the pot then filled with boiling water. The result will be, in about a minute, a most delicious cup of tea, much superior to that drawn in the ordinary way.

Rhubarb Jam. (Manchester Receipt.)—Boil gently, for three hours, an equal weight of fine sugar and rhubarb-stalk, with the juice and grated rind of a lemon to each pound of the fruit. When the true flavour of the rhubarb is much liked, the lemon-peel should be omitted. A very good jam may be made with six ounces less of sugar to the pound, by boiling the rhubarb gently for an hour before it is edded. fore it is added.

Coffee, French Fashion.—To a pint of coffee, made as before directed, add a pint of boiling milk, warm both together until nearly boiling, and serve.

NEW KITCHEN IMPLEMENTS.

M. Soyer, in his "Modern Housewife," (lately published), describes a Magic Lamp Stove, with which may be cooked, on the break/ast-table, a cutlet, ham, or bacon, or eggs may be poached. In this new and portable apparatus, the heat is given by vapour of spirit of wine passing through a flame: it will cook cutlets, or boil water, in as short a time as the best charcoal; with the saute-pan everything can be cooked as on a charcoal fire; and with a small sancepan anything that may be required in the room of an invalid, where the heat of a fire would not be allowed. In place of the kitchen-range, the hotplate, and the charcoal stove, M. Soyer recommends a Gas Stove, which is very economical; the fire being left to go out after dinner, and some days not being plate, and the charcoal stove, M. Soyer recommends a Gas Stove, which is very economical; the fire being left to go out after dinner, and some days not being even lit, it is exceedingly clean. This new stove is placed in the middle of the kitchen: it combines a roasting fire, circulating hot-water boiler, oven, and hot plate, all heated by one fire; the boiler heats the water at the top of the house for the baths, and which can be laid on into any room; the advantage is that it gives more room in the kitchen, in being able to walk all round it; there are also different degrees of heat on the hot plate, and room for the bain-marie are also different degrees of neat on the not plate, and room for the bain-marie pan: the smoke goes under the floor into the old chimney. It is made by Messrs. Bramah and Prestage, of Piccadilly. It could be fitted with a steamboiler if required, and would be valuable in hotels and taverns: in a cottage, the linen could be dried around it without danger from fire; and it also cures smoky chimneys. There is very little heat arising from it.

HOW TO FIT UP A KITCHEN.

Among other improvements in kitchen fittings, the dressers are made with drawers and slides, which is very convenient, as anything dirty may be placed upon them, and the cloth be thus saved. The rail above contains all the copper stewpans. Another dresser is used for placing the dishes on when sending up the dinner: it has the covers over it; and underneath, the dripping pan, frying pan, gridiron—so that nothing is hid from sight, therefore they cannot but be clean. This is a good plan; for those mysterious closets are often found full of dirt, broken plates, old towels, and everything that is wanted to be hidden from sight. There is a little scullery; it is supplied with hot and cold water, and has a sink, in which are washed the plates, dishes, coppers, &c., or anything else; so that all dirt is kept out of the kitchen; but this is every bit as clean as the kitchen. The larder is paved and lined with slate: the window, which is protected by wire, opens to the north. Under the window is the pastry-slab, which ice-drawer under that. In one corner is the meat block and table, with scales to weigh all that comes into the larder. Here is the safe, with a sliding door on pulley, and in which are the vegetable bins; and here, also, is one of Lings's patent ice-safes. The meat hangs from tin hooks. There are two boxes for powdered herbs of all kinds (Makepeaces), and also essences for confectionery. This is called the housewife's box. called the housewife's box.

The following stock of utensils is considered to be quite complete, and by no The following stock of utensils is considered to be quite complete, and by no means too numerous:—8 copper stewpans, two larger ones holding one gallon and a half, and the next one gallon, the others smaller by degrees to one pint; I oval fish-kettle, holding about one gallon and a half—but if by chance you have a turbot, borrow a kettle from the fishmonger; I middle-sized braising-pan; 1 preserving-pan; I round bowl for beating whites of eggs; 2 sauté-pans; 1 omelette-pan; I frying-pan; 1 bain-marie; 6 saucepans for the sauce; I middle-sized tin pie-mould; 2 tin jelly-moulds; 1 tin flanc-mould for fruit; 1 freezing-pot, with every requisite; 2 baking-sheets; 1 gridiron; 1 small salamander; 2 colander-spoon; I bottle-jack; 2 spits; 1 dripping-pan; 1 screen; 1 sugar-pan; 2 soup-ladles; 8 copper spoons, two of them colanders; 2 wire baskets; 1 wire sieve; 2 hair sieves; 24 tartlet-pans; 2 tammies; 1 ielly-bag; 21 wooden spoons 2 soup-ladles; 8 copper spoons, two of them colanders; 2 wire baskets; 1 wire sieve; 2 hair sieves; 24 tartlet-pans; 2 tammies; 1 jely-bag; 12 wooden spoons; 2 paste-brushes; 1 pair of scissors; 2 kitchen-knives; 6 larding-needles; 1 packing-needle ; 1 box of vegetable-cutters; 1 box of paste-cutters; 1 meat saw; 1 cutlet-chopper; 1 meat-chopper; 6 meat-hooks, tinned; 1 rolling-pin; 8 kitchen basins; 6 china pie-dishes; 6 earthen bowls for soups and gravies; 4 kitchen table-cloths; 18 rubbers; 12 fish napkins; 6 pudding-cloths; 4 round towels. These utensils, no doubt, appear very numerous, but, at the same time, they are no more than are required; and it is only the first nine articles which are rather expensive: the others can be had at the cost of a few shillings. The linen should be placed in the presses every week, and an exact account kept of it; for it is only by so doing that so small a quantity can be kept in use. The stock linen should be placed in the presses every week, and an exactaccount kept of it; for it is only by so doing that so small a quantity can be kept in use. The stock consists of 12 pairs of sheets; 10 ditto pillow-cases; 3 dozen of napkins; 2 dozen and a half of various-sized table-cloths, including breakfast, dinner, &c., 6 servants' table-cloths; 3 dozen towels; 6 round towels; 3 dozen kitchen rubbers; 2 dozen napkins for fish, vegetables, and fruits; 6 pudding cloths; 2 dozen damask d'oylies; 1 dozen Berlin wool ditto. Occasionally in the wash are the cover of the carpet, the anti-macassars, and the netted window curtains. Of glass and china, provide the following; they should be counted every month, and the broken ones replaced; 3 dozen wine-glasses; 2 dozen charpagne ditto; 2 dozen claret ditto; 3 dozen goblets; 6 water carafes; 6 decanters; 1 liqueur stand, 12 liqueur glasses; 2 glass jugs; 1 relief slass; 8 dessert dishes.—China, 1 full dinner service; 1 common set for kitchen; 1 common tea service for kitchen; 1 good tea service; 1 breakfast service; 1 good dessert service.—The following is the list of Plate: 3 dozen of prongs; 2 dozen of table-spoons; 1 and a half ditto of dessert-forks; 2 dozen datter chira; 2 salvers; 1 sparagustongs, 2 sugar tongs; 1 soup-ladle; 4 sauce ladles; 2 gravy-spoons; 2 sugar-ladles; 2 salvers; 1 bread-basket; 4 candlesticks; 1 hot-water dish for haunch of mutton.

GENERAL POSTAL REGULATIONS, &c.

RATES OF POSTAGE.—All letters from one part of Great Britain to another (including the Local Penny Posts and the London Twopenny Post) are charged, if prepaid, and not

Exceeding half an ounce Exceeding half an ounce, and not exceeding one ounce ...

and so on, at the rate of 2d. for every additional ounce or fraction of an ounce. Unpaid and unstamped letters are charged double postage on delivery.

Unpaid and unstamped letters are charged double postage on delivery.

HOURS OF POSTING FOR THE EVENING MALIS.—The Receiving-Houses close at 5 30 P.M.; but letters are received for the evening's dispatch until 6 P.M.; far a extra penny stamp is affixed. The Branch Post-offices at Charing Cross, Old Cavendish-street, and Stones-end, Southwark, receive letters until 6 P.M.; and until ½ to 7 P.M. by affixing an additional penny stamp. At the Branch Post-Office in Lombard-street, the box remains open without additional fee until 6 P.M., and until 7 P.M. by affixing a penny stamp. At the General Post-Office in St. Martin's-le-Grand until 6, free; and until 7, by payment of the extra charge as at Lombard-street. From 7 to half-past 7 P.M., letters may be posted at the General Post-office upon payment of a fee of sixpence each, which must, as well as the postage, be pre-paid. Letters intended to pass by outward mails to foreign parts must be posted at the above hours.—N.B. Newspapers for the evening mails must be put into the Receiving-Houses before 5 P.M., the Branch offices before 6 9.0. General Post-Office before 6 P.M. From 6 P.M. to 7 30, on payment of one-halfpenny late fee; except newspapers for foreign parts, which must, be posted at the General Post-Office and Branch Offices before 6 P.M., and at the Receiving-Houses before 5 P.M., and at the Receiving-Houses before 5 P.M.

Morning Mails are forwarded to most of the principal towns in England and

MORNING MAILS are forwarded to most of the principal towns in England and Wales, and to all parts of Ireland and Scotland, for which the letter-boxes at the Receiving-Houses will be open till 7 a.m. for newspapers, and \(\frac{1}{4}\) to 8 a.m. for letters; and at the Branch Offices, Charing-cross, Old Cavendish-street, and the Borough, for newspapers until half-past 7 a.m., and for letters until 8 a.m. At the General Post-Office and the Branch Office in Lombard-street, the boxes will

close for newspapers at a quarter before 8 a.m., and for letters at half-past 8 a.m. Any Single Book or Pamphlet can now be sent through the Post-Office to any part of the United Kingdom if not exceeding 16 oz. in weight, and open at both ends, by affixing six postage stamps; if above 16 oz. 1s., and 6d. for every additional pound or fraction of a pound. The Postmaster-General does not guarantee the delivery of books and pamphlets with the same accuracy and regularities. larity as newspapers and letters, but in no case will the delivery be delayed more than 24 hours after the usual post.

larity as newspapers and letters, but in no case will the delivery be delayed more than 24 hours after the usual post.

British and Colonial Papers between British Colonies, without passing through the United Kingdom, to be free; except that 1d. may be allowed as a gratuity to the master of the vessel conveying them.

Newspapers, British, Forrich, or Colonial, passing between British or Colonial and Foreign ports, and through the British post, to pay 2d.; if not through the British post, 1d.

New Postage Stames intended principally for the pre-payment of foreign letters have been issued. They are of the value of one shilling each, the colour being green, and the form octagonal, and another of the value of tenpence of a brown colour. These stamps may be used for inland as well as foreign postage, but they are chiefly intended for the postage of letters to the United States, India, China, the West Indies, New South Wales, and New Zealand, &c. Packages which in length, breadth, or width exceed twenty-four inches, cannot be forwarded by post between any places within the United Kingdom; except, however, petitions or addresses to her Majesty, or petitions to either House of Parliament forwarded to any Member of either House or printed votes or proceedings of Parliament, or letters to or from any Government offices or departments.

Money Orders—With a view to simplicity and economy in the accounts of

ment onces or departments.

Money Orders.—With a view to simplicity and economy in the accounts of the Money Order Office, it has been found necessary to lay down the following rules:—1. Every money order issued on or after the 6th October, 1848, must be presented for payment before the end of the second calendar month after that in presented for payment before the end of the second calendar month after that in which it was issued (for instance, if issued in October, it must be presented for payment before the end of December), otherwise a new order will be necessary, for which a second commission must be paid. 2. As already notified to the public, if an order be not presented for payment before the end of the twelfth calendar month after that in which it was issued (for instance, if issued in October and not presented before the end of the next October), the money will not be paid at all. 3. As, after once paying a money order, by whomsoever presented, the office will not be liable to any further claim, the public are strictly cautioned a. To take all means to prevent the loss of the money order. b. Never to send a money order in the same letter with the information required on payment thereof. c. To be careful, on taking out a money order, to state correctly the Christian name as well as the surname of the person in whose favour it is to be drawn. a. To see that the name, address, and occupation of the person taking out the money order are correctly known to the person in whose favour it is drawn. 4. Neglect of these instructions will lead to delay and trouble in obtaining payment, and even risk the loss of the money. These in structions, together with some others of minor importance, will be found printed on every money order.

CONSULATE AND PASSPORT OFFICES.

CONSULATE AND PASSPORT OFFICES.

AUSTRIA.—Embassy, 7, Chandos-street, Cavendish-square, between 12 and 2.

Belgium.—Legation, 9 A, Weymouth-street, Portland-place, between 11 and 3; delivered next day between 11 and 2, gratis; at the Consul's office, 3, Copthall-court, between 10 and 4—fee 5s.

BAVARIA.—The Minister, 3, Hill-street, Berkeley-square, when personally known to him; or at the Consul Office, 33\(\frac{2}{4}\), Great St. Helen's.

BRAZIL.—Legation, 41, York-street, Portman-square, between 12 and 2, gratis.

Denmark.—6, Warnford-court, between 10 and 4—fee 10s. 6d.; under special circumstances at the Embassy, 2, Wilton-terrace, Belgrave-square.

FRANCE.—French passport-office, 6, Poland-street, Oxford-street, from 12 to 5; delivered immediately on personal application, and payment of 5s; also at the Consul's office, 3, Copthall-buildings, between 12 and 4—fee 5s. One passport will include a whole family and servants.

NAPLES AND SICILY.—Passport-office, 15, Princes-street, Cavendish-square, Mondays and Thursdays, between 10 and 12; delivered following day between 2 and 3, gratis.

Mondays and Thursdays, between 2 and 3, grafts.

observed 2 and 3, grafts.

observed 4, delivered following day; also at Consul's office, 5, Jeffrey's-square, St. and 4, derivered following day; also at Consul's office, 5, Jeffrey's-square, St Mary-axe, from 10 to 4.

PRUSSIA.—106, Fenchurch-street, between 10 and 6—fee 7s.

RUSSIA.—2, Winchester-buildings, between 10 and 4; delivered following day—fee 6s. 4d.

THE QUEEN AND ROYAL FAMILY.

THE QUEEN.—VICTORIA, of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith, was born May 24th, 1819; succeeded to the throne, June 20th, 1837, on the death of her uncle, King William IV.; crowned, June 28th, 1838, and married, February 10th, 1840, to his Royal Highness Prince Albert. Her Majesty is the only daughter of his late Royal Highness Edward Duke of Kent, son of King George III.

His Royal Highness Francis Albert Augustus Charles Emanuel Busici, Duke of Saxe, Prince of Coburg and Gotha, K.G., Consort of her Majesty, born August 25th 1819

August 26th, 1819.

Her Royal Highness Victoria Adelaide Mary Louisa, Princess Royal, born No-

Her Royal Highness Victoria Adelaide Mary Louisa, Princess Royal, born November 21st, 1840.

His Royal Highness Albert Edward, Prince of Wales, born November 9th, 1841.

Her Royal Highness Alfred Ernest Albert, born August 6th, 1844.

His Royal Highness Alfred Ernest Albert, born August 6th, 1844.

Her Royal Highness Princess Helena Augusta Victoria, born May 25, 1846.

Her Royal Highness Princess Louisa Carolina Alberta, born March 18, 1848.

The Queen Dowager.—Amelia Adelaide Louisa Theresa, sister to the reigning Duke of Saxe Meiningen, born August 13th, 1792; married July 11th, 1818; crowned September 8th, 1831.

Ernest Augustus, Doke of Cumberland, in Great Britain, and King of Hanover, uncle to her Majesty, born June 5th, 1771, married, August 29th, 1815. Issne. George Frederick.

Issue, George Frederick.

Adolphus Frederick, Dure of Cameride, uncle to her Majesty, born February 24th, 1774; married, May 2nd, 1818, her Serene Highness Augusta Wilhelmina Louisa, youngest daughter of Frederick, Landgrave of Hesse. Issue, three children. Mark, Aunt to her Majesty, born April 25th, 1776; married, July 22nd, 1816, her cousin, the Duke of Gloucester, deceased.

Victoria Mary Louisa, Duchess of Kent, born August 17th, 1786; married, in 1818, the Duke of Kent (who died January 23rd, 1820); her Majesty's mother. Augusta Wilhelmia Louisa, Duchess of Cameride, niece of the Landgrave of Hesse, born July 25th, 1795; married, in 1818, the Duke of Cambridge, by whom she has issue, George William, Augusta Caroline, and Mary Adelaide.

George Frederick Alexander Charles Ernest Augustus, K.G., only child of the King of Hanover, Prince Royal of Hanover, cousin to her Majesty; born May 27th, 1819; married, February, 1843, Princess Mary of Saxe Altenberg, and has a son.

May 27th, 1819; married, February, 1845, Frincess mary of sake Alcoholog, and has a son.

George Frederick William Charles, K.G., son of the Duke of Cambridge, cousin to her Majesty, born March 26th, 1819.

Augusta Caroline Charlotte Elizabeth Mary Sophia Louisa, daughter of the Duke of Cambridge, and cousin to her Majesty, born July 19th, 1822; married, June 28th, 1843, Frederick, Hereditary Grand Duke of Mecklenburg Strelltz.

Mary Adelaide Wilhelmina Elizabeth, daughter of the Duke of Cambridge, and

cousin to her Majesty, born November 27th, 1833.

THE QUEEN'S HOUSEHOLD.

THE COME	-10	HOUDHHOLL
Lord Great Chamberlain		Lord Willoughby D'Eresby
Lord Steward		Earl Fortescue
Lord Chamberlain		Marquis of Breadalbane, K.T.
Vice-Chamberlain		Lord E. Howard
Master of the Horse		Duke of Norfolk
Clerk Marshal and Chief Equerry		Lord Alfred Paget
Treasurer of the Household		Lord Marcus Hill
Comparoller of the Household		Right. Hon. W. S. Lascelles
Lord High Almoner		Bishop of Oxford
Sub-Almoner		Rev. G. Goodenough, D.D.
Clerk of the Closet		Bishop of Chester
Master of the Buckhounds		Earl of Bessborough
Comptroller of Accounts		Sir William Martins
Master of the Household		Major-General Bowles
Captain of the Yeomen of the Guard		Marquis of Donegal
Captain of Gentlemen-at-Arms		Lord Foley
	6	Earl of Listowel, Lord Camoys, Lord
		Waterpark, Lord Elphinstone, Earl of
Lords in Waiting		Morley, Lord Byron, Lord Dufferin,
and the second of the second of the second	-	Marquis of Ormonde
Mistress of the Robes		The Duchess of Sutherland
	-	Countess of Mount-Edgecumbe, Mar-
TO A 15	21/24	chioness of Douro, Countess of Desart,
Ladies of the Bedchamber		Countess of Gainsboro', Countess of
A CONTRACT OF THE PARTY OF THE PARTY	000	Charlemont, Viscountess Jocelyn, Vis-
	90	countess Canning, Lady Portman
Extra Lady of the Bedchamber		Duchess of Norfolk.
The state of the s	1	Charles Locock, M.D., Sir James
Physicians	4	Clark, Bart., and W. F. Chambers,
	-	M.D.
Surgeons		Sir B. Brodie, Bart., and R. Keate, Esq.

HER MAJESTY	'S MINISTERS.
OF THE	CABINET.
First Lord of the Treasury (Premier)	Lord John Russell Lord Cottenham
Lord Chancellor	The Marquis of Lansdowne
Lord Privy Seal	The Earl of Minto Sir George Grey, Bart.
Secretaries of State	Lord Palmerston
C Colonial	Earl Grey The Rt. Hon. Sir Charles Wood
President of the Board of Control	Sir J. C. Hobhouse
President of the Board of Trade	Rt. Hon. H. Labouchere The Right Hon. Sir F. Baring, Bart.
First Lord of the Admiralty Chancellor of the Duchy of Lancaster	Lord Campbell
Chief Commissioner Woods and Forests	Earl of Carlisle The Marquis of Clanricarde
Postmaster-General IREL	
THE RESERVE OF THE PARTY OF THE	The Earl of Clarendon
Lord Chancellor	The Right Hon. M. Brady
Chief Secretary	The Right Hon. Sir W. Somerville, Bart.

.. Right Hon. J. M. Monahan. J. Hatchell, Esq.

Attorney-General Solicitor-General SCOTLAND.

The Earl of Errol Viscount Melville Lord High Constable Lord Privy Seal Lord Advocate Right Hon. A. Rutherford

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Comptroller, Lord Monteagle
Assistant, A. Eden, E-q.
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Accountant, G. S. Frederick, Esq.
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Under-Secretaries, G. C. Lewis, Esq.,
H. Waddington, Esq.
Chief Clerk, H. J. Knyvett, Esq.
Private Secretary, H. Brand, Esq.
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FOREIGN OFFICE,
DOWNING-STREET.
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Under-Secretaries Lord Eddisbury, H.
U. Addington, Esq.
Chief Clerk, G. L. Conyngham, Esq.
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Private Secretary, the Hon. H. C. Grey.

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M. Somerville, Bart.
Chief Clerk, George Trundle, Esq.
Assistant, Hon. S. D. Montague
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Arbuthnot.

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1 AND 2, SOMERSET-PLACE.

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Director-General of Works, Col. Irvine
Storekeeper, Hon. R. Dundas
Surveyor, Sir B. Walker
Assistant Surveyor, — Edye, Esq.
Comptroller of Steam Department,
Capt. A. Ellice
Chief Engineer J. T. Lloyd, Esq.
Chief Clerks, J. M. Boddy, J. C. Parkin,
W. Leyburn, B. Fosset, Wm. Scamp,
Esgs.

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ASTRONOMICAL DEPARTMENTS Circle Superintendent, J. Henry, Esq. Transit Superintendent, T. Ellis, Esq Altitude and Azimuth, E. Dunkin, Esq.,

MAGNETICAL AND METEOROLOGICA DEPARTMENT.

Superintendent, James Glaisher, Esq. F.R.S., F.R.A.S.

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Lieutenant-Governor, Rear-Admiral Sir James Alexander Gordon, K.C.B. Captains, G. Moubray, T. Dickenson, T. L. P. Laugharne, W. Cuppage. Commanders, C. Robinson, W. C. C. Dalyell, J. Corbyn, E. W. Garrett. Lieutenants, F. Bedford, W. Rivers, M. Fitton, J. W. Rouse, D. O'Brien Ca-sey, B. J. Loveless, J. Dornford, G. M. Monk. Masters, T. Peprose, H. Smartlay.

Masters, T. Penrose, H. Smartley. Chaplains, Rev. J. K. Goldney, Rev. E. Kitson Medical Inspector of Hospitals, Sir John

Liddell, M.D.

Deputy Medical Inspector of Hospitals, Alexander Nisbet, M.D.

Surgeon, James M'Ternan

Dispenser, J. Whitmarsh.

Assisting Dispenser, A. Yair.
Assistant Surgeons, R. F. Cullen, N.
Lytelton, W. T. Domville, V. C. Clarke. CIVIL DEPARTMENT.

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Hill.
Head Master of Lower School, E.

Hughes, Esq.

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WHITEHALL.

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Chief Examiner, R. C. Kirby, Esq.
First Clerk, J. Borrow, Esq.
Senior Clerks, J. Sandham, J. Crooms, W. Anderson, T. L. Matthew, R. H. Stewart, A J. Moorhead, J. P. Parsey, H. Kendrick, and E. Biddle, Esqrs.
Private Secretary, A. G. Carmichael, Esq.

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Commander-in-Chief, Duke of Welling-

Private Secretary, A. Greville, Esq Military Secretary, Lieut.-General Lord

F. Somerset Aides-de-Camp, Colonel Hon. C. Anson, Colonel, Marquis of Douro, Capt. Earl of March, Captain Marquis of Worcester

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Williamy Secretary, F. H.

Lindsay, Esq., F. Fergusson, Esq

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HORSE-GUARDS.

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Assistant, Colonel J. Freeth
Deputy, Major Enoch
First Clerk, T. Marsh, Esq.
Confidential Clerk, J. O'Neil, Esq. LAW OFFICERS OF THE CROWN. Attorney-General, Sir J. Jervis. Solicitor-General, Sir J. Romilly.

ADMIRALTY COURT,

2, PAUL'S BAKEHOUSE-COURT, DOCTORS'-COMMONS.

Judge, Rt. Hon. S. Lushington, D.CL. Dean of the Arches, the Right Hon. Sir Herbert Jenner Fust. Registrar, H. B. Swabey, Esq.
Queen's Advocate, Sir J. Dodson, LL.D.
Admiralty Adv., J. Phillimore, D.CL.
Queen's Proctor, F. H. Dyke, Esq.
Admiralty Proctor, W. Townsend, Esq.
JUDGE ADVOCATE-GENERAL'S OFFICE,

35, GREAT GEORGE-ST., WESTMINSTER. Judge Advocate-General, the Right Hon. Sir David Dundas, M.P.
Deputy, Francis Newman Rogers, Esq.,

QC. Chief Clerk, William Henry Hughes, Esq. Second Clerk, Jonathan Scollick, Esq. Third Clerk, Robert Champneys Mundell, Esq.

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86, PALL MALL.
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Surveyor-General, Sir Jas. M'Adam.
Accountant, V. C. Wright, Esq.
Inspector, H. Browse, Esq.
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Elected September 29th—Sworn in November 9th.
The Right Henourable Thomas Farncome, Bassishaw.

SHERIFFS.

Elected 24th June—Sworn in 28th September.
Wm. Lawrence, Esq., Alderman. | Donald Nicoll Donald Nicoll, Esq.

UNDER-SHERIFFS. J. J. Millard, Esq. D. W. Wire, Esq.

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Hunter, William, Esq., Coleman-street; 10, Finsbury Circus 1843 Challis, Thomas, Esq., Cripplegate; 32, Wilson-street, Finsbury 1843 Sidney, Thomas, Esq., M.P., Billingsgate; 8, Ludgate-hill 1844 Moon, F. G., Esq., Portsoken; 20, Threadneedle-street 1844 Salomons, David, Esq., Cordwainer: 1, Shorter's-court 1848 Finnis, Thomas Quested, Esq., Tower; Tower-street 1848 Lawrence, William, Esq., Bread-street, 30, Bread-street 1848
Hunter, William, Esq., Coleman-street; 10, Finsbury Circus
Sidney, Thomas, Esq., M.P., Billingsgate; 8, Ludgate-hill 1844 Moon, F. G., Esq., Portsoken; 20, Threadneedle-street 1844 Salomons, David, Esq., Cordwainer; 1, Shorter's-court 1848 Finnis, Thomas Quested, Esq., Tower; Tower-street 1848 Lawrence, William, Esq., Bread-street, 30, Bread-street 1848
Moon, F. G., Esq., Portsoken; 20, Threadneedle-street
Salomons, David, Esq., Cordwainer: I, Shorter's-court 1848 Finnis, Thomas Quested, Esq., Tower, Tower-street 1848 Lawrence, William, Esq., Bread-street, 30, Bread-street 1848
Finnis, Thomas Quested, Esq., Tower; Tower-street 1848 Lawrence, William, Esq., Bread-street, 30, Bread-street 1848
Lawrence, William, Esq., Bread-street, 30, Bread-street 1848
Editioned, william, Edd., Diena street, oo, Diena wiece
Carden, Whitam, Esq., Dowgate, 2, Exchange Duntungs
THE FOLLOWING HAVE PASSED THE CHAIR.
Hunter, Sir. C. S., Bart., Bridge Without; 23, Euston-square 1804
Thompson, W., Esq., M.P., Cheap; Upper Thames-street 1821
Key, Sir John, Bart., Langbourn, 3, Abchurch Lane 1823
Laurie, Sir Peter, Knt., Aldersgate; 7, Park-square, Regent's-park 1826
Farebrother, C., Esq., Lime-street; 6, Lancaster-place, Strand 1826
Copeland, W. Esq., M.P., Bishopsgate; 37, Lincoln's Inn-fields 1829
Kelly, T., Esq., Farringdon Within; 17, Paternoster-row
Wilson, Samuel, Esq., Castle Baynard; 24, St. Paul's Church-yard 1831
Marshall, Sir C., Knt., Bridge Within; 43, Russell-square 1832
Pirie, Sir John, Bart., Cornhill; Birchin Lane
Humphery, J., Esq., M.P., Aldgate; Hays's Wharf, Southwark 1835 Magnay, Sir William, Bart., Vintry; College-hill 1838
Cibbs Michael For Walbrook 22 Walbrook
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Cir Trans Dale M. D. Danie also With sal
Sir James Duke, M.P., Farringdon Without 1840

EAST INDIA COMPANY.

Six Directors are elected annually in April, when six go out by rotation. Each Director serves four years. The figure prefixed denotes the number of years each

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Lieutenant-General Sir James Law John Petty Muspratt, Esq.
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